DOCUMENT RESUME

ED 022 500

LI 000 824

THE 3R'S PROGRAM--MEETING INDUSTRY'S INFORMATIONAL NEEDS. REPORT TO THE DIVISION OF LIBRARY DEVELOPMENT, NEW YORK STATE LIBRARY.

Little (Arthur D.), Inc., Boston, Mass.
Report No-C-69318
Pub Date Sep 67
Note-78p.
Available from-Commerce Offset, 657 Commerce Street, Thornwood, New York 10594 ($4.00).
EDRS Price MF-$0.50 HC Not Available from EDRS.
Descriptors-*BUSINESS, *INDUSTRY, *INFORMATION NEEDS, INTERLIBRARY LOANS, LIBRARY COOPERATION, LIBRARY PROGRAMS, *LIBRARY SERVICES, *NETWORKS, PROGRAM DEVELOPMENT, SPECIAL LIBRARIES
Identifiers-New York, Reference and Research Library Resources Program, State Technical Services Program

The information needs of business and industry in New York state were studied in relation to the programs serving them, with specific analysis of possibilities for interaction between existing programs, the geographic configuration of the Reference and Research Library Resources (3R's) Program and the State Technical Services Program (STSP), relevant laws, and financial requirements of an effective program. It was concluded that the information needs of corporations employing professional libraries are adequately met, but most businesses and industries have no access to special libraries and express limited overt needs, although potential needs are great. It is suggested that a library program be developed by concentrating on known needs, and it is recommended that the state of New York--(1) provide library support to STSP, (2) enlist publicity support from STSP, (3) establish a coordinating council for the 3R's program and STSP, (4) establish a reference center in each 3R region, (5) extend the New York State Interlibrary Loan Network (NYSILL) out of state, and (6) improve funding and organization of the 3R's program. (JB)

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The 3R's Program:
Meeting Industry's Informational Needs

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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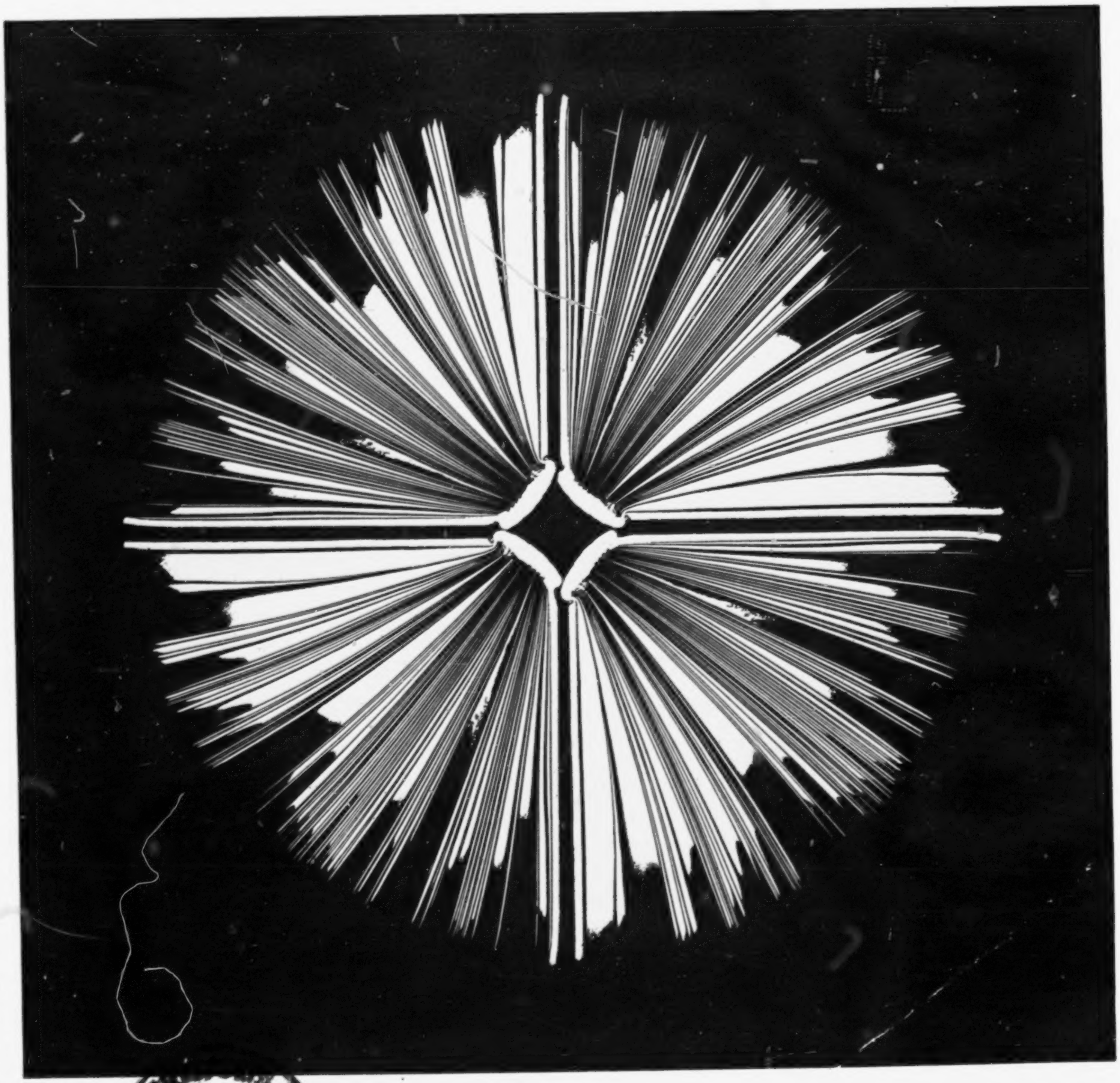

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THE 3 R'S PROGRAM:
MEETING INDUSTRY'S INFORMATIONAL NEEDS

Report to

DIVISION OF LIBRARY DEVELOPMENT
NEW YORK STATE LIBRARY

September 1967

C-69318

Arthur D. Little, Inc.

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ACKNOWLEDGMENTS

Our thanks are extended to the Advisory Committee for this study for its assistance in defining the scope of the study and its continued counsel as the work proceeded. Members of the committee and their institutional affiliations are:

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I. SUMMARY

A. PURPOSE AND SCOPE

Arthur D. Little, Inc. (ADL) was authorized by the Division of Library Development, New York State Library, to determine the informational needs of business and industry and to relate these needs to the programs provided to serve them. For this purpose, ADL has studied the relationships of the existing programs to one another, the geographic configuration of both the Reference and Research Library Resources (3 R's) Program and the State Technical Services Program (STSP), the objectives of both programs, and the possibilities for interaction through a viable plan for communication and exchange within the administrative structures of both programs. ADL has also considered the existing laws and the possible need for their clarification, the financial support available to serve the informational needs of business, and the finances required for an effective overall program.

B. CONCLUSIONS AND RECOMMENDATIONS

The results of a mail questionnaire sent to more than 1000 special libraries in the State of New York indicate that the information needs of employees with access to these corporate libraries are being adequately met. While most requests of employees can be filled by these special libraries, those that cannot are being well-handled by public libraries, universities, and other outside information sources to whom these unfilled requests are sent. For those corporations, therefore, that have trained librarians on their staff, the existing complex of libraries within the state, for the most part, is meeting the needs of business and industry.

The vast majority of persons involved in business and industry, however, do not have access to special libraries. Surveys indicate that persons in this category may constitute as much as 90% of the industrial base. On the basis of previous studies performed by ADL and others, we conclude that the existing or overt needs of this group are, on the whole, limited, although potentially their needs are great. At present, the primary sources of information for most businessmen, engineers, etc., are trade magazines, trade associations, and word-of-mouth communications. Public libraries have played a very small part in supplying information to these persons, since standard book materials are not always adequate.

Currently, in the State of New York, the STSP is the only significant state-sponsored program performing a missionary role in attempting to convince businessmen and engineers that they have unnecessarily limited their horizons by holding to parochial views on the applicability of technical information to their problems. The 3R's Program should encourage these efforts by supporting the efforts of the STSP, even if this effort is limited to providing assistance on technical matters only.

In meeting the needs of business and industry, the administrators of the 3R's Program should give first priority to improving the mechanisms by which the businessmen are served. The amount of activity taking place among special libraries demonstrates that a great potential need for library information exists among those without special libraries. A detailed assessment of this need is almost impossible to achieve through systematic surveys. To develop a library program which is responsive to the unserved segment of the business and industry community, it is important to concentrate on known needs. These needs vary from region to region, industry to industry, and individual to individual. The more generalized needs are apparent and have been stated many times by other studies and by persons interviewed in this study. They center on access to a system that can provide the right document with minimal time, cost, and discomfort to the businessman. The public library system, therefore, should develop simple procedures for obtaining such information and should publicize its desire to provide the specialized services which the business community requires. As more and more businessmen become aware that libraries can be of service to them, their presently unarticulated needs will become apparent, and further mechanisms to respond to these requirements can be developed.

To accomplish these objectives, the State of New York should:

- Provide library support to the STSP;
- Enlist publicity support from the STSP;
- Establish a coordinating council for the 3R's Program and the STSP;
- Establish a business and industry reference center in each of the nine 3R's regions;
- Extend the New York State Interlibrary Loan Network (NYSILL) to out-of-state resources (it may be worthwhile to employ a liaison person in Washington, D.C., to ensure the flow of information from the Library of Congress and government resources);
- Provide nonbook material;
- Develop improved inventory tools on a regional and statewide basis;
- Restructure the interloan system;
- Increase the funding for the 3R's Program;
- Develop a capability for computerized bibliographic searches at the state and regional level;
- Improve the organization of the 3R's Program; and
- Promote the 3R's Program on a regional basis.

II. INTRODUCTION

A. BACKGROUND

The first New York State Governor's Library Conference was held in 1965. Shortly thereafter a Governor's Library Committee was formed, and from that Committee's efforts a bill was passed, increasing state aid to public library systems. An appropriation was made to the Education Department to establish the 3R's Program. By 1967, the 3R's Program included the organization of nine regional systems. The character of these systems is defined by the Commissioner of Education's regulation 101-b. The Public Library System Program, structured under the same department, has been operational for over a decade, serving the needs of public libraries and their patrons through 22 systems covering the entire state. A cooperative network of library service to public libraries is, therefore, operational.

As the public library systems matured, it became evident that the next logical step in improving the total library picture of the state would be to develop a system for more serious readers and researchers. It was for this purpose that the 3R's Program was initiated. At the same time, it was hoped that the special library requirements of business and industry could be adequately met. The STSP, discussed below, was established for this purpose. While the 3R's and the STSP are not administratively related, their activities should interface. As the two programs evolve and needs dictate, a working relationship between the programs should be encouraged.

The U.S. State Technical Services Act (STSA) was signed by the President in 1965. The purpose of the program was stated as follows:

> Congress finds that wider diffusion and more effective application of science and technology in business, commerce and industry are essential to the growth of the economy; that the benefit of federally financed research as well as other research must be placed more effectively in the hands of American business, commerce and industry, and that the several states through cooperation with universities, communities and industries can contribute significantly to these purposes by providing technical services designed to encourage a more effective application of science and technology to both new and established business, commerce and industrial establishments.

In New York State, the Department of Commerce was designated to administer this program. In the first year of the program, funds were granted to a number of institutions of higher learning for services to industry. In 1967, steps have been taken to divide the state into various areas, with headquarters in each area for coordinating services and establishing information clearing houses. The first of these to become operational is the Technical Resources Center at Syracuse University. The programs providing library and information services to industry are several and somewhat diverse. They are also in their formative stages.

B. APPROACH

In the study, three basic sources of data were used – prior studies, interviews, and a questionnaire.

1. Prior Studies

ADL recently performed a study for the National Aeronautics and Space Administration on the technical information transfer process from government to industry, which provided us with valuable insights into industry behavior patterns and needs for information. A study performed by the University of Colorado, under contract to the Small Business Administration, provided further information on the needs of business. Additional sources of information included various congressional hearings on the applicability of technology developed under federal funding, numerous conferences and seminars on this subject, and a series of studies relating to the improvement of business effectiveness in various regions of the country performed by ADL.

The literature is replete with information on the needs of business and industry for information. Rather than duplicate work that already has been performed in this area, one of our first actions was to perform a literature search. Much of the information contained herein, particularly on the attitudes of businessmen to libraries in general, has been drawn from this material. In addition, studies and descriptive documents on the New York State Library System, the 3R's Program, and the STSP were reviewed.

2. Interviews

During this study, ADL staff members performed approximately 50 in-depth interviews. Interviews or discussions were held with the following:

- Directors or Assistant Directors of 5 of the nine 3R's regions;
- Directors of 14 of the 20 State Technical Services Offices;
- Personnel in the Department of Defense and the U. S. Department of Commerce;
- Staff members of selected companies in New York State;
- ADL staff members whose familiarity with information requirements and information transfer has been established over the years in assisting industry with technical and managerial problems; and
- Business educators.

3. Questionnaire

A questionnaire was mailed to more than 1100 members of the Special Libraries Association (SLA) of the State of New York. In making this survey, we hoped to accomplish two overall objectives: first, to determine what types of information and service are being requested of these libraries by the business and industry employees they serve; and second, to determine how well these needs were being met by these libraries using (a) only their own resources and (b) outside sources.

Special libraries were selected for sampling for the very practical reason that, other than the businessmen and professionals themselves, they were the only sources knowledgeable about the library and other information needs of business and industry. To sample individual businessmen and professionals employed in industry would have been too costly. Furthermore, the results probably would have made only a marginal contribution to what we already knew from secondary sources and interviews.

We received more than a 30% response to the total number of valid questionnaires mailed out (some companies received two or more questionnaires owing to multiple membership of their librarians in the SLA). Approximately 40 of the returned questionnaires were not tabulated in the final results because they were from public libraries or universities which had special libraries. Since respondents were given the option of identifying their organization or not, it is possible that a few noncorporate respondents were included in the final tabulation. For us to meet our schedule, a return date of July 15 was necessary on questionnaire returns; 60 questionnaires returned after that date were not tabulated. Our final tabulation included data from 203 respondents.

The results were machine-processed and, in addition to a straight enumeration of the answers to each question, a series of cross-tabulations was performed.*

C. THE INFORMATION TRANSFER PROCESS TO AND WITHIN INDUSTRY

1. Reactive Mode

Figure 1 describes the information transfer process familiar to most librarians, called the "reactive mode." Essentially, the library or other information sources simply react to a request for information.

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*Because of the expense involved in reproducing the full machine run (198 tables), it has not been included in the report. Three copies are available at the Division of Library Development.

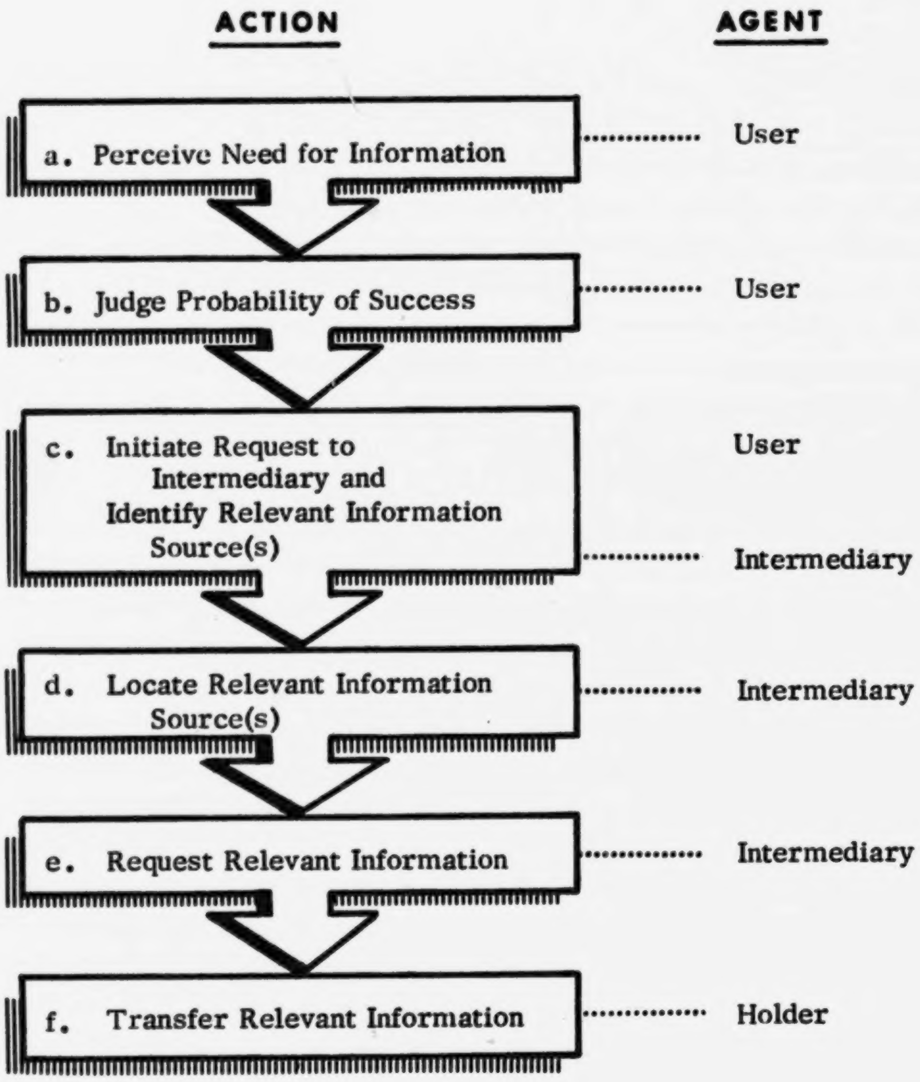
ACTION
AGENT
a. Perceive Need for Information
User
b. Judge Probability of Success
User
c. Initiate Request to Intermediary and Identify Relevant Information Source(s)
User
Intermediary
d. Locate Relevant Information Source(s)
Intermediary
e. Request Relevant Information
Intermediary
f. Transfer Relevant Information
Holder

FIGURE 1 MODEL OF INFORMATION TRANSFER PROCESS: REACTIVE MODE

In this mode, the businessman knows what he wants; it is then simply a matter of his asking the right person the right question to get the information. Information sources are interrogated by the user on his own initiative; the system simply reacts to the user.

This mode describes the typical operations of a library which is geared toward satisfying the overt information needs of business and industry -- that is, those needs that can be articulated by the user in reasonably precise terms (e.g., the price of a stock, the formula for a given compound, or the per capita income of a county) -- rather than the potential information needs (e.g., generalized needs, more in the category of education, ideas, patents, or processes). Each stage of action is described below.

a. Perceive Need for Information

The process begins when the user, such as a businessman, engineer, or scientist, perceives that specific or even generalized information would be useful to him in solving a particular problem. At this stage, he has defined his need for specific information, such as a chemical formula or a legal reference.

b. Judge Probability of Success

At this stage, the businessman (user) makes a judgment as to whether or not it is worth the effort to go through the trouble of getting the information. Although this step may appear to be inconsistent, since he has already determined he needs the information, the user must decide whether or not the cost to him (i.e., in terms of time, the choice between alternative actions, etc.) can be justified. It is at this stage that many businessmen decide not to try to locate the information, for many real or imagined reasons, such as: "It is too much trouble"; "they won't have what I want"; or, "I don't know where to go to find it."

c. Initiate Request to Intermediary

The user, having determined the information is worth pursuing, typically goes to a person (librarian, specialist, etc.) to request the information. Since information retrieval, except for the most elemental materials, requires that a person be able to properly interrogate an information source (a library, the government, etc.), most users must go to an intermediary (a librarian) to present the request. The librarian in this case acts as a bridge between the user of the information and the place where the information is stored, by assisting the user in translating his requirements into terms that are meaningful to the information repository. This step can be circumvented if the user "knows how to use a library" and has adequately defined his needs so that he can use a card catalog or some other locating device. Most businessmen, however, do not fit into this category and, therefore, require the assistance of an intermediary.

d. Locate Relevant Information Sources

The intermediary, acting on behalf of the user, attempts to determine the physical location of the material or information identified earlier.

e. Request Relevant Information

A request for the information is made to the holder of the information.

f. Transfer Relevant Information

In the final stage, the information or material is physically transferred to the user who initiated the request through an intermediary.

2. Active Mode

Figure 2 describes the other mode of information transfer -- the active mode. In the active mode, an agent informs the potential user of information that such information exists and that it may be useful to him.

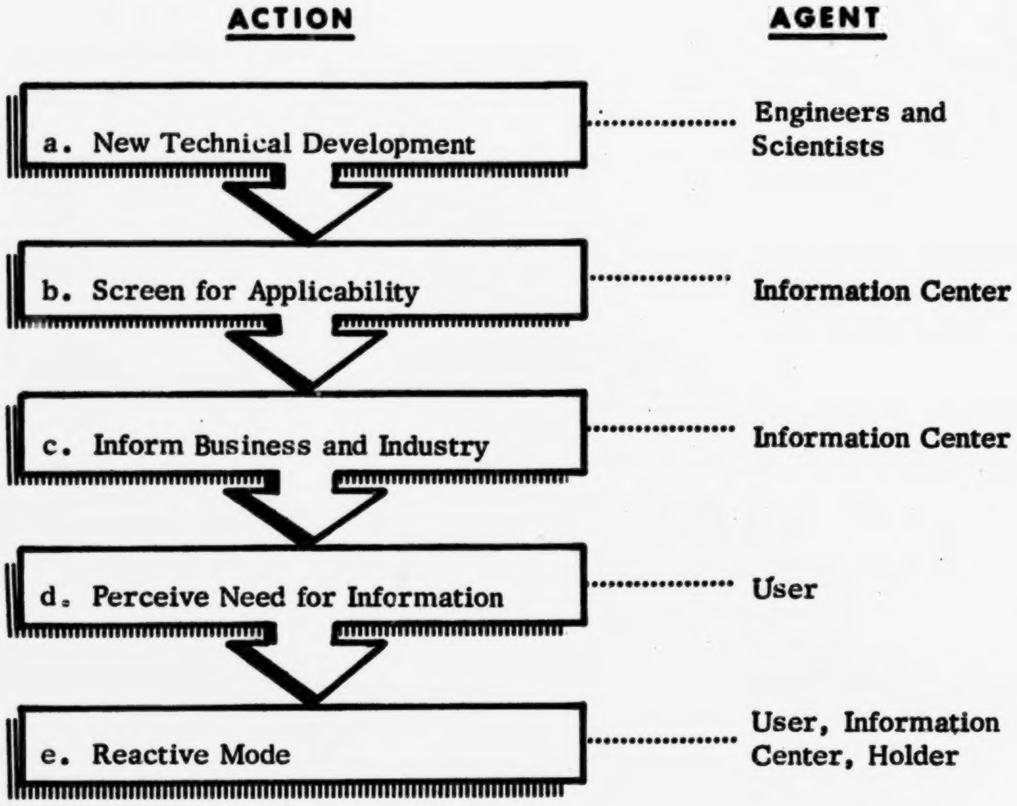
ACTION
AGENT
a. New Technical Development
Engineers and Scientists
b. Screen for Applicability
Information Center
c. Inform Business and Industry
Information Center
d. Perceive Need for Information
User
e. Reactive Mode
User, Information Center, Holder

FIGURE 2 MODEL OF INFORMATION TRANSFER PROCESS: ACTIVE MODE

The active mode differs from the reactive mode in that an overt need for information has not yet been identified by the potential user. Each stage of action in the active mode is described below.

a. New Technical Development

A new technical development is only one of many sources of information that may be applicable to business and industry. The development could as well be a new managerial technique or a development which is not new, but is not generally known.

b. Screen for Applicability

Before the new development can be actively promoted to business and industry, someone must screen the development to identify if and decide where it is applicable. Although termed an information center, the agent could be one of any number of persons or organizations. NASA, for example, has established a Technical Utilization Program to perform these functions.

c. Inform Business and Industry

Having established the applicability of this information, the information center must take steps to inform potential users of the existence of the information. To a large degree, this is the function being performed by the STSP within the State of New York. Other agencies, such as the U. S. Department of Commerce and the Small Business Administration also perform this function. Libraries rarely, if ever, do.

d. Perceive Need for Information

If the information center is successful in informing business and industry of the existence and applicability of the information, the businessmen should have perceived their need for the information.

e. Reactive Mode

The establishment of a perceived need initiates the reactive mode, described above.

3. Applicability of Information Transfer Process Concept To This Study

Much of the frustration associated with any attempt to define information needs for business and industry can be traced to a confusion between potential and overt needs and between the active and the reactive mode of information transfer. The public library system, in particular, has never really defined its role and responsibility in this process. If, as is most often the case, it should operate only as an intermediary and holder in the reactive mode, then its problems in meeting information needs, although still huge, are somewhat more manageable than if it also tries to perform the function of an "information center" operating in the active mode. The issue of role definition for libraries has been, and continues to be, a major stumbling block for the 3R's Program in formulating policies for servicing business and industry. There is an elusive but very real feeling among those concerned with the future direction of the 3R's Program that if they knew what books, periodicals, articles, data, etc., industry and business really want and the type of service they require, they could set up their program to fill these needs.

As this study progressed, however, it became increasingly apparent to us that most business information needs are potential, not overt needs. The fact that very few businessmen use libraries* either confirms this or indicates that businessmen have made a judgment that libraries cannot meet their overt needs. In a survey conducted by the University of Colorado, 55% of the businessmen surveyed reported that they required no further information to assist them in their business. The remaining 45% said that they would like to have further information on certain subjects, if it were available. Although the Colorado report did not state this, it is probably a reasonable assumption that the vast majority of these businessmen will never go to the trouble of finding out whether or not the information does exist. Many students of the library field have observed that persons in business and industry, for the most part, disdain the use of public libraries. The following quotation summarizes this situation quite accurately:

> Our own experience and what evidence there is shows that the heaviest industrial users of public library science-technology services appear to be company special libraries. . . . It is probable that few engineers and scientists, even in the largest cities, have any idea of the resources available to them in good, public library science-technology departments. . . . If this impression is accurate, then it is the staffs of the science-technology departments themselves who are at fault for failing to inform their industrial constituents about what the library has to offer by insufficient use of library public relations offices. . . . It is probable, moreover, that there are public librarians who do not believe that their function is to serve industry. The deficiencies revealed in this survey, the tenor of library literature, and the historical emphasis of the majority of American public libraries would seem to imply this. . . . Although American public library service to industry may be of age in years of existence, it is for the most part still adolescent in scope and enthusiasm.**

While this statement would suggest that public libraries should launch a campaign to educate business and industry on the services libraries can provide to them, libraries first must define the services they are capable of performing. It is simply impossible for the 3 R's Program, or the entire public library system for that matter, to meet all of the overt and potential needs of industry. A ranking of the libraries' actual and potential clientele is a matter of first priority.

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*Eighty percent of the businessmen surveyed by the University of Colorado in a national study indicated that they had never attempted to use a public library to obtain business information.

Daniel R. Pfoutz, and Jackson B. Cohen, "Service to Industry by Public Libraries," **Library Trends, January 1966, pp. 236-261.

III. INFORMATIONAL NEEDS OF BUSINESS AND INDUSTRY

After consultation with the Division of Library Development, New York State Library and the Advisory Committee, we concluded that a survey of special librarians in the state would provide valuable information on the needs of business and industry. We also recognized, however, that in New York State, as in other areas of the country, only a small fraction of business and industrial establishments have their own library facilities and, therefore, that we also would have to consider the requirements of those without special libraries.

Special librarians working in corporate and business libraries serve only as surrogates for their employees. We, therefore, structured the questions to make them as factual as possible, to avoid asking the librarians' opinions on what are the needs of business and industry. Instead, we designed the questionnaire to provide us with answers regarding whether or not special libraries were meeting the information needs of the companies they served. And, conversely, to determine, in those instances when they are not meeting these needs, where additional support of the type the 3R's Program could supply might be given.

While it would be invalid to extrapolate the questionnaire findings to all businesses and industries, since only a small fraction have their own libraries, we could reasonably assume that, if employees with access to a company library were having difficulties in certain areas, the individuals without this professional assistance would have similar or worse problems.

Finally, the questionnaire would provide us with information on how well the various existing channels and sources of information are operating in meeting business needs. The experience of special libraries, therefore, could serve as a testing device on whether or not public libraries, college and university libraries, etc., should be improved from the special libraries' viewpoint. This information would be particularly revealing, since an underlying assumption of the 3R's Program, as it relates to business and industry needs, is that the existing system does, in fact, require improvement.

A. QUESTIONNAIRE FINDINGS

A tabulation of the responses to the questionnaire is incorporated in the sample questionnaire contained in the Appendix, along with a few explanatory notes on the interpretation of the results. Only the conclusions drawn from the questionnaire are included in this report. Cross tabulations and other data essential to the analysis are contained on machine print-out forms and are on file with the Division of Library Development.

1. Overall Success of Special Libraries in Filling User Needs

As a measure of how well special libraries are meeting the information needs of the employees they are serving, we compared the tabulated answers to question 14 ("Using only your own library resources, approximately what percentage of the time in 1966 were you able to fill the requests of users for serials, books, bibliographic information, and specific information?") with those for question 20 (which asked, in a similar fashion, their success in filling requests in each of these categories by borrowing from other libraries or alternative information sources). (Refer to the sample questionnaire in the Appendix for the precise wording of each question.)

These libraries, by any standard, were reasonably successful in filling user requests, either from their own holdings or by borrowing from others, as indicated by Table 1.

TABLE 1

SUCCESS IN FILLING USER REQUESTS

Type of Request	Number of Requests	Percentage Filled With Own Resources	Percentage Filled By Borrowing	Percentage Not Filled
Serials	100.0	80.0	19.4	0.6
Books	100.0	80.0	18.0	2.0
Bibliography	100.0	90.0	9.7	0.3
Information	100.0	90.0	9.0	1.0

Note that special libraries were successful in filling serial requests made to them by their users 80% of the time. In those instances where they could not fill these requests (20% of the time), they were able to borrow the serials 97% of the time, leaving only 0.6% of the total requests unfilled.

Before drawing any final conclusions from these tabulations, a few comments are necessary. First, the results of a survey of this nature, which undoubtedly involved a great deal of estimating on the part of respondents, cannot be accurate to fractions of one percentage point. Also, the coding sheet used for tabulating the results grouped percentages into certain categories; for example, a respondent who said that 86% of his serial requests were filled using his own resources would be coded into the same category as a respondent who reported a 93% success rate. In terms of coding inaccuracies, however, the results cannot deviate by more than 5% from the respondent's answer to questions relating to "request-fill" success, or by more than 0.25% in the case of requests that cannot be filled.

Finally, some respondents may have reported their general success in borrowing, rather than their success in those specific instances when they were unable to fill a request using only their own resources. This distinction is important, since it is possible that some of the requests that they could not fill were simply dropped without attempting to go outside to fill them. The high success rate in borrowing (97% for serials and bibliographic information and 90% for books and specific information) suggests that librarians probably make a request only to those libraries or agencies where, through past experience, they are reasonably certain the request can and will be filled. If this is true, and they did not read the questions carefully, it is possible that employees who have access to special libraries are not being served quite as well as the questionnaire results indicate. However, even after one makes qualitative allowances for these possible discrepancies, the results suggest that individuals in those companies that have special libraries are being very well served in terms of their information needs.

2. Special Libraries' Experience with Alternative Sources of Information

These questionnaire results indicate that the requests of individuals in companies with their own libraries are being met a remarkably high proportion of the time. To determine, however, how fast these requests had been filled, an additional series of questions was asked in the survey. The information thus obtained also provided some revealing data on how effectively each of the various categories of libraries or agencies was performing in meeting the requests of the special libraries being surveyed. Table 2 summarizes the results compiled from questions 25 through 32 of the questionnaire.

TABLE 2

SPECIAL LIBRARIES' EXPERIENCE WITH SERVICES

Source	Response Time (days)	Percentage of Requests Filled	Percentage Using This Source	Percentage Using This Source Most Frequently
New York State Library	8-14	80	22	15.8
Public Libraries	2	90	71	15.8
College Libraries	4- 5	87	71	11.3
Research Centers	3	90	48	4.4
Special Libraries	2	88	91	25.6
Out-of-State Libraries	8-14	88	47	4.4
Federal Government	8-14	93	83	17.7
Experts	3	--	43	4.9

As a criterion for evaluating the speed of response of the sources of information upon whom special libraries depend to supplement their resources, respondents were asked to indicate what they regard as a necessary response time (question 19). Three days was the median response. Applying this criterion, it will be seen that four information sources were deficient. Two of these (out-of-state libraries and the Federal Government) were not located in New York State. The remaining two were the New York State Library in Albany, and college and university libraries in New York State. For three out of the four, 8-14 days elapsed between the initiation of a request to them by special libraries and the receipt of the requested material. The fourth, college libraries, took 4-5 days to respond to a request, exceeding the criterion by one day.

Of the four information sources that met the criterion, two (public libraries and special libraries in New York State) were filling requests one day sooner than the three days specified as necessary. Nonprofit research centers and information requests to experts, faculty members, etc., took the exact number specified in the criterion.

Of particular significance to the 3R's Program is the indication by the survey results that the public libraries to whom, or through whom, requests from special libraries would be channeled are already doing an excellent job, even though their experience with the Federal Government and out-of-state libraries in terms of time delay was very poor (8-14 days). Yet the 3R's Program, at least at present, is still not tied in with these particular information sources. The managers of the 3R's Program should also be concerned by the long delays experienced when dealing with the New York State Library, one of the mainsprings upon which the proper functioning of the 3R's Program depends.

While common sense indicates that delays in response time must depend to some degree on the location of the requesting special library and the location of the source to whom the request was sent, 8- to 14-day response time is still too long. The response time must be shortened to meet the stated needs of the special libraries. Since 76.4%* of the respondents were located in the New York City Metropolitan area, delays in dealing with Albany are to be expected. However, even allowing for delays caused by using the mails, the discrepancy between the stated requirement of three days and the reported experience of 8-14 days is too great to be explained purely in terms of distance. Reductions in delay time attributable to the mails can be expected with the wider application of the FACTS system (Facsimile Transmission Network) within the 3R's Program if and when FACTS is proven to be technically and economically feasible. Although we did not seek to evaluate the efficiency of the New York State Library, a number of respondents volunteered information that its service was inadequate. The tabulated questionnaire results appear to confirm this information. A further look at this operation may be in order because of its importance to the success of the 3R's Program.

In addition to response time, Table 2 records the experience (median) of respondents in terms of their success in having requests filled by each of these alternative sources. The results do not fully agree with those discussed earlier on "request-fill" success on books, serials, etc., for two reasons. First, the percentage of requests filled was computed from estimates provided by each respondent on the number of requests sent to each source and on the number of receipts of requested information (sub-questions a and b of questions 25 through 32). Since, in many instances, these were estimates rather than recorded data, we would expect discrepancies. Second, considerably fewer respondents filled in the numbers requested in questions 25 through 32 than was the case in question 20. The discrepancies, however, are not very great and indicate a very high success ratio overall, except for the New York State Library, which, statistically at least, seems to have become the whipping boy of the tabulations presented so far. In Table 2, the third column, "percentage using this source," places the New York State Library (22%) at the bottom of the list. These percentages were derived by a tallying of "yes's" or "no's" to questions 25 through 32 as to whether or not a particular source was used. The last column, "percentage using this source most frequently," was derived by identifying each respondent with the information source to whom most requests were made. The percentage, therefore, is unweighted, in the sense that, using the New York State Library as an example, 15.8% of the respondents used this source more frequently than they did all other sources. It does not mean that the New York State Library receives 15.8% of all requests made by special libraries.

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*This percentage roughly corresponds to the total New York State SLA membership, which indicates that the response is geographically representative of the universe sampled.

The fact that only 22% of the respondents used the New York State Library, yet 15.8% of the respondents sent most of their request to it, indicates that a rather concentrated group of special libraries depends rather heavily on this one source. Cross-tabulation of the data shows that 13.6% of users of the State Library are in the medical field; an additional 20.4% are in the instrumentation field, some of whom may be concerned with medical equipment. It is probable that some medical or related industry special libraries use this facility because it has an excellent and extensive library in this field. Further evidence of this concentration may be obtained by reference to question 5 in the tabulation of results. Thirteen percent of the respondents (the highest concentration of respondents) were identified as being in the "Medical & Other Health Services Field." Since these persons are the users of the New York State Library, this particular segment of industry could be greatly helped by improvements in the New York State Library.

Note that special libraries seem to use each other extensively, which is not surprising, particularly in the case of companies engaged in specialized areas of research. More than 90% of the respondents said they used other special libraries, and slightly more than 25% sent most of their requests to these libraries. At present, the 3R's Program has no formal interlibrary loan arrangements with special libraries owned by profit-making companies. Such an arrangement may or may not be of significant help to these libraries, since they already seem to be cooperating with each other. However, the questionnaire cannot tell us how, if at all, further cooperation is necessary or desirable.

Next to the special libraries, the Federal Government is the most used source, probably because it is the only source of many special documents. It also ranks second in terms of the number of requests from special libraries. There is a heavy reliance on this source of information and, considering the delay of 8-14 days between request and receipt of information, the 3R's Program could assist industry by speeding up this process. As indicated earlier, there are no current plans to do so by the 3R's Program.

Libraries outside of the state, the third information source, with delays of 8-14 days, are used by only 47% of the respondents. Only 4.4% of the companies sampled reported that out-of-state libraries are their first source to fulfill requests. Whether this low use is due to the time delay or to the fact that the holdings of out-of-state libraries may be generally unknown to the respondents is not known. It is a reasonable assumption, however, that the vast concentration of information resources in New York State precludes the necessity of going out-of-state for the majority of requests.

The percentage use of colleges and universities ranks about the same as public libraries while the percentage of requests to the former is low (11.3% versus 15.8%). Colleges and universities are slightly less successful in filling requests than public libraries (87% versus 90%). However, both sources appear to be doing quite well overall in meeting the needs of special libraries, although the college library response time could be improved. Even though they cannot fill 10-13% of the requests made by special libraries, it should be remembered that these requests are only the 10-20% of all requests that cannot be filled in-house by the special libraries so the unable-to-fill rate is only about 1-2% of user requests.

3. Profile of Successful Libraries

To obtain insight into why certain special libraries are more successful in filling the needs of the employees they serve than are other special libraries, we arbitrarily divided the respondents into two groups. The first group, termed "successful libraries," was determined by the response of each library to question 14. If a respondent reported that he was able to fill 75% or more of requests made to him using only his own library resources, he was placed in the "successful" category. The second group, called "not-so-successful," consisted of respondents reporting 74% or less.

The successful group was then compared with the unsuccessful group, in terms of all the possibly relevant questions, to determine if there were significant differences. A Chi Square statistic of significance was applied to the results of each tabulation of each possible variable. The results indicated that there were few statistically valid differences between the two groups. (The exceptions are noted later.) Some of these findings were surprising. For example, location of the firm in the New York Metropolitan area seemed to have no bearing on success. The factor or attributes that did seem to influence success are discussed below.

a. Size of Firm (Number of Persons Employed)

As might be expected, the larger the company, the more likely it is to be successful in filling the requests of its users from its own resources. However, the Chi Square statistic, when applied to each of the four material categories for the "successful" and "not-so-successful" groups, was not significant, since the expected confidence levels ranged from 0.206 in the case of book success to 0.372 in the case of serials. By grouping the company size categories into two groups (1000 or more employees; less than 1000), it became apparent that size was important over broader ranges. For example, 43.2% of all firms "successful" in filling book requests had 1000 or more employees, while only 23.1% of the "not-so-successful" were this size. In nonmathematical terms, size matters, but not very much.

Again, as one might expect, the size of the company correlates highly with the number of volumes and serials held, the number of librarians employed, and the number of requests it receives from its employees.

About the only conclusion one can draw, and even this conclusion is very questionable, is that the larger the company, the less assistance its employees probably will need from sources external to their special library, such as the public library system and the 3R's Program.

b. Industry

The tabulation on the number of "successful" and "not-so-successful" firms in terms of the industry in which each is primarily engaged and the subject area of their largest holdings indicates that firms in technical fields are the most successful. Conversely, nontechnical companies are not as successful. Outstanding among these is the securities industry.

This finding, although difficult to support on any rigid statistical basis, seems to indicate that technical firms need less assistance than do nontechnical firms.

c. Use of External Information Sources

The "successful" firms also tended to be more successful in getting requests for materials filled by outside sources. Although here again the statistical evidence is rather spotty, there was a demonstrated tendency. A very likely explanation is that the larger firms generally are more sophisticated and knowledgeable about how to identify information sources and make requests properly. There may also be an element of reciprocity involved here, especially among the larger special libraries.

The "successful" firms tend to use both the Federal Government and sources located outside of the State of New York more than the "not-so-successful" special libraries do. They also tend to use experts, faculty members, etc., more. Whether these firms are more successful because of these factors or these factors are simply attributes of these firms is not clear.

B. QUESTIONNAIRE CONCLUSIONS

A more detailed description of the questionnaire results is given in the Appendix. In this section, we have discussed only the broader findings. On the basis of the preceding discussion, as well as an analysis of more than 300 pages of machine print-out, we have arrived at the following conclusions.

1. The Distinction Between the "Successful" and the "Not-So-Successful" Special Library is Blurred

In applying various criteria relating to the fulfillment of requests made to these libraries by the employees that they serve, it was apparent that an overwhelming majority of the respondents were doing a good job.

The fact that these libraries are doing a good job does not mean that improved service via the 3R's Program would not be welcome. It does suggest, however, that the 3R's should concentrate on improving service to individuals without direct access to corporate libraries. Special libraries already have representation on the 3R's Councils, but there is no immediate spokesman for the businessmen unaffiliated with a special library.

2. The Public Library System of the State of New York is, in General, Doing a Good Job in Serving the Needs of that Segment of Business and Industry that has Its Own Library Resources

This conclusion does not indicate, necessarily, that the public library system is doing an equally good job in serving businesses and industries which do not have their own libraries. The special libraries generally are staffed by professional librarians, who "know the ropes better" and have established personal relationships with their counterparts in the public libraries and thus are able to receive better service than could an individual without the benefit of a special librarian acting on his behalf. In this sense, the survey cannot serve as a bellwether for evaluating the overall effectiveness of the public library system. The survey can, however, tell us if the public library system is performing poorly; on the assumption that if anyone can get good service, a professional librarian should be able to. But, the fact that a special librarian does get good service does not mean that other users will also.

The three areas where special libraries are not getting the service they require involve the New York State Library, the Federal Government, and out-of-state libraries. The first of these is under direct state control, and thus it is within its power to improve, while the service from the latter two might be improved if the 3R's Program is extended to include these within its NYSILL program.

3. The Prospects for Making a Formal Arrangement for Extending the NYSILL Program so that Libraries can Borrow from Special Libraries Seem Remote

This conclusion stems from the questionnaire results which indicate that the special libraries are doing a good job of filling other user needs under the existing structure of interlibrary loans. If the special libraries were to open their doors to the public (via the public library system) on any mass scale, the effectiveness of their operations in filling employee requests with their own resources would undoubtedly be reduced. Since the libraries are already providing employees with good service, the only significant improvement the state, via the 3R's Program, could offer them in return for this inconvenience might be through the New York State Library, which is being used by only one in five special libraries. Most of these requests are probably in the medical field. We doubt, therefore, that any *quid pro quo* on a formal interlibrary loan system could be worked out with these libraries, although this avenue should be explored.

Although at the present time special libraries owned by profit-making organizations are not accessible to the public via the formal NYSILL network, to the best of our knowledge there is no legal barrier to including these organizations in the system. The state, in effect, would be entering into a contract for services provided (literature searches, loans, etc.), just as it does with its thousands of vendors. The state would be prohibited, however, from providing any subsidy to a profit-making organization in the form of financial assistance to build up its resources.

The legality of providing voting rights on the 3R's Councils to representatives of profit-making organizations (at present, they are nonvoting members) has not yet been tested. One of the functions of the 3R's Councils is to allocate state funds to various organizations in order to build up their resources for the betterment of library service to all. There might well be grounds for challenging the legal right of a profit-making organization to participate in the state funds allocation process.

Although we were asked to explore this legal issue of the status of profit-making organizations and their special libraries *vis-à-vis* the 3R's Program, we were unable to identify any person concerned with the 3R's Program who considered this to be an issue. Apparently, no one had raised this question, nor had profit-making organizations objected to their exclusion from having voting rights. As long as special libraries are not involved in the actual voting of appropriations, there may be merit in allowing them to receive funds if the resulting resources were made available to the general public through interlibrary loan.

C. INFORMATION NEEDS OF BUSINESSES AND INDUSTRIES WITHOUT SPECIAL LIBRARY FACILITIES

It was agreed that no attempt would be made to make an inventory of needs in terms of specific holdings that a particular library or an entire library system should have to fill the requests of businessmen. Such an undertaking, if performed in depth, would far exceed the time and budgetary constraints of this study. Furthermore, it is questionable whether the concept of attempting to define information needs in these terms in an area so diverse and all-inclusive as "business and industry" has any practical utility, since this area covers, with but few exceptions, the full spectrum of knowledge from the physical sciences, both basic and applied, through the social sciences and the humanities. The holdings of these business libraries, which can be very extensive, are generally nontechnical and concerned with such areas as finance, management, personnel, and economic statistics. Therefore, they would be inadequate, for example, to meet the needs of a process manufacturing engineer, a research chemist, or a computer designer, each of whom would look to information sources specializing in his profession (e.g., an engineering college, a trade association, a professional society). Although the needs of this type of individual would be considered in defining the information needs of business and industry, perhaps the last place he would turn to for information (and rightly so) would be a "business library."

In our study, a consistent picture emerges of the habits and needs of industry for information. For overt needs, a good library clearly can be helpful. For potential needs, a further definition of the problem is necessary before any specific document or item of information can be brought to bear on it.

In many instances, in attempts to assist the businessman, the distinction between overt and potential needs is either not understood or is ignored by the library profession and other groups concerned with information storage, retrieval, and dissemination. The library system as it is structured today probably has a very minor role in assisting the businessman define his problems clearly enough (i.e., translate needs from potential to overt) so that specific library holdings can be used to solve them. In establishing the

Technical Services Program, the Small Business Administration and countless other programs of consulting assistance, seminars, workshops, etc., private groups, and various government agencies are working to assist the businessman in this area. As these programs begin to develop contacts with the business and industrial community, it is expected that many potential needs will be defined in such a way that libraries will be able to offer service. It must be remembered, however, that some business problems can never be solved through the medium of library materials. Countless managerial decisions, for instance, require the application of general principles rather than specific data. Librarians should be aware that information contained in libraries is only partially useful for the day-to-day work of business and industry; nevertheless, they should be prepared to supply relevant information whenever it is applicable.

The attitudes of businessmen toward libraries have been characterized in a number of studies concerned either directly or indirectly with the information transfer processes. Although it would be difficult to characterize these attitudes specifically, we can state that at least 80% of businessmen regard a public library as a place that is "good to have for the community" and designed to serve students, children, and the fiction reader rather than the businessman. We have found that many businessmen pride themselves on being "hard-headed" and practical; and, to most of them, a public library is the very antithesis of this idea.

Although the bulk of business and industry have this attitude toward libraries, there are still thousands of applications where recourse to a library can be very profitable for the businessman. The newer aerospace and highly technical industries have continued need for printed data. Other industries too can find libraries useful in studying business trends, obtaining specific data on commercial topics, securing background material related to their fields, etc. The list could go on, but the important point is that, while libraries are not relevant to all business situations, there are still innumerable cases where they can be of great value. Those libraries which do have business collections, such as the Brooklyn Public Library and the New York Public Library, have found that businessmen will use their resources. Librarians should be sensitive to all possible applications and be ready to assume the initiative when the opportunity arises.

Because the vast majority of business and industry employees do not use libraries at all, there is no practical way to determine what all their potential needs might be. To do so, it would be necessary to conduct an in-depth analysis on an industry-to-industry basis involving a cataloging of skill requirements and an evaluation of the manufacturing or operating processes being carried on. Only in this way could we begin to appreciate the variety of information that could be applied to each situation. Obviously, such a procedure would be extremely expensive and time-consuming. It should be noted that adults, in general, are not aware of all that public libraries can do for them. Studies indicate that many persons read only newspapers and popular periodicals.

Rather than trying to define these needs, the 3R's Program should concentrate its efforts on creating a mechanism that welcomes rather than discourages public library use by industry and business. Only in this way will the businessman begin to attempt to articulate his needs to the librarian. It will require more than just a publicity program aimed at businessmen. It will require an investment in training librarians to be receptive to poorly articulated problems and to encourage businessmen not to dismiss the library as a source of potential assistance until he has tried every means at his disposal to communicate his need. The biggest need of business and industry is, in fact, the need to be convinced that the public library system (and through the auspices of the 3R's Program, the university libraries as well) can assist them in their work. Libraries can be successful, as demonstrated by the Brooklyn Public Library and the New York Public Library, both of which are used extensively by businessmen.

IV. THE STATE TECHNICAL SERVICES PROGRAM

A. DESCRIPTION

1. National Level

a. Background of Need for Program

The industrial success of the United States has been predicated on its technological and scientific achievements. In large measure, the dynamic and innovative character of U.S. industry has been made possible by monies allocated by both public and private sources to research and development. That research and development (R&D) is an activity with growing emphasis is well documented; in 1950, private R&D expenditures were $1.2 billion; by 1965, they had grown significantly to a level of $5.5 billion. Over the same period, federally financed R&D increased from $1.6 billion to an estimated $15 billion.* The transfusion of new ideas and techniques from such research has enabled many industries to grow dramatically; at the same time, it has encouraged the creation of modern new enterprises.

Although benefits from public and privately financed R&D are widespread in the economy, far more could be done with this valuable reserve of accumulated scientific and technical knowledge. Some believe that the increase in innovative enterprises has been disappointing, considering the volume of research dollars expended within the United States. Finally, a number of regions within the country have technologically deficient industries, which no longer can claim competitive advantage over other U.S., or even foreign, industries.

A recognition of the above factors was responsible for the design and passage of the State Technical Services Act (STSA) by the Congress, which was intended to provide better channels for the dissemination in the United States of accumulated scientific and technical knowledge. Its architects and supporters felt that more links were required to transfer the vast reserve of available scientific and technical data to those in need of such knowledge; better links, they contended, would facilitate a wider dissemination of such know-how and, thereby, contribute substantially to the growth of the U.S. economy and the competitive position of U.S. goods and services in world markets.

b. The State Technical Services Act

STSA was signed into law by President Johnson on September 14, 1965. Its primary purpose, as stated, was to raise the technological level of American business, commerce, and industry, by channeling to them the benefits of research (federally financed as well as other). Implementation of STSA is based on energizing the creativity, initiative, leadership, and resources of individual states. Instead of authorizing a large Washington operation with its attendant bureaucracy, the STSA focuses on the development and operation of state institutions that can efficiently implement the program. Some centralized veto power is, however, maintained in Washington. Although the Director of the Office of State Technical Services (OSTS) wishes to encourage a greater exercise of responsibility and initiative by the states, he also is compelled to reject projects that do not meet basic requirements under the law. Typical projects include: listings of technical information sources; technical referral services; and workshops or seminars in advanced technology suitable for local industry.

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*Office of State Technical Services, First Annual Report, Fiscal Year 1966, U.S. Department of Commerce, Washington, D.C., 1967.

The Congress authorized funding under STSA for three fiscal years: 1966, 1967, and 1968. At the end of fiscal year 1968, the program will be reviewed by an independent committee to determine its effectiveness. It will then be modified, continued in its present form, or terminated, depending on the results of this review and other fiscal considerations.

As defined by STSA, the State Technical Services Program (STSP) does not include general business counsel, such as financial, production, and marketing assistance, among its technical services. Congress explicitly restricted it to science and technology, primarily because Congress did not wish to duplicate the efforts of existing governmental bodies, such as the Small Business Administration.

c. The Objectives of the State Technical Services Program

The most important objective of the STSP is to achieve a wider dissemination to and more effective application of scientific and technological information in business, commerce, and industry. Objectives delineated by the OSTS are as follows:

(1) To encourage the examination of technological and economic conditions, state by state, and to develop sound plans on a broad base of participation aimed at improving the local economy through the introduction and application of new science and technology.

(2) Similarly, to identify interstate, regional, or national problems or opportunities of special significance and to develop action programs to resolve or diminish such problems or to capitalize on the potentials of opportunities when identified.

(3) To increase the ability of scientists, engineers, and business and industrial management personnel to acquire and make use of new science and technology by appropriate programs of continuing professional education.

(4) To encourage university-industry cooperation, including interinstitutional relationships and interstate activity, and broaden the base of institutional participation in assisting local business and industry to apply new scientific and technological discoveries to their own purposes.

(5) To increase the ability of industry broadly to gather and assimilate the pertinent aspects of scientific and technical reports and literature for potential applications through the general introduction of many specialized techniques of literature search, abstracting services, microfilm techniques, and computerized storage and retrieval of information, and by making greater use of consultants or other locally available sources of expertise and information.

(6) To generate a complete exchange of information among the states concerning their respective technical service programs so that all participants may learn through the example of others.

(7) To assist in the development of local, state, regional and national resources, particularly in terms of bringing the best available skills to bear on the problems identified throughout these objectives.

(8) To encourage innovation and greater application of science and technology as driving forces behind economic development.

(9) To study the processes by which technology is transferred, identifying those factors which assist and those which impede such transfer, and then developing more positive means of obtaining the desired objectives of technology transfer and participating in the establishment of links between the generators and the potential users of new knowledge.

(10) To work with other governmental agencies at all levels, educational institutions, and professional and technical societies, in achieving the above objectives, without overlap or gap, while bringing the best available scientific and technological resources, whether public or private, to bear upon each problem of commerce, business, and industry that has been identified.*

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*Office of State Technical Services, First Annual Report, Fiscal Year 1966, U.S. Department of Commerce, Washington, D.C., 1967.

The technical services included under the STSA are as follows:

(1) Preparation and dissemination of technical reports, abstracts, computer tape, microfilm, reviews, and similar scientific or engineering information, including the establishment of state or interstate technical information centers.

(2) Provision of a reference service to identify sources of engineering and other scientific expertise.

(3) Sponsorship of industrial workshops, seminars, training programs, extension courses, demonstrations, and field visits designed to encourage the more effective application of scientific and engineering information.*

d. Organization and Administration at the Federal Level

The OSTS is a part of the U. S. Department of Commerce. Its administrative structure is shown in Figure 3. As the figure indicates, the director's office is supported by administrative and legal counsel. Three divisions report directly to the director's office: Special Programs, Reference Services, and State Program.

The function of the OSTS is to administer and coordinate the State Technical Services Programs at the federal level and advise and assist the various states with their individual programs.

e. Relationship of the State Technical Services Program to Other Government Programs

To prevent unnecessary duplication or a conflict in objectives or functions, the OSTS has reviewed the functions of other federal programs. It has also established working relationships with appropriate agencies. For example, contacts have been made with the Department of Commerce, the Economic Development Administration, the Business and Defense Services Administration, and the National Bureau of Standards. Also, discussions have been held with representatives of the Small Business Administration, NASA, the Department of Defense, and the Atomic Energy Commission. Furthermore, the OSTS has investigated the role of the Federal Council for Science and Technology, the Resources Program Staff of the Department of the Interior, the Rural Community Development Service of the Department of Agriculture, the Office of Education, the Department of Health, Education, and Welfare, the Science Information Exchange of the Smithsonian Institution, and the National Referral Center of the Library of Congress.

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*Office of State Technical Services, First Annual Report, Fiscal Year 1966, U.S. Department of Commerce, Washington, D.C., 1967.

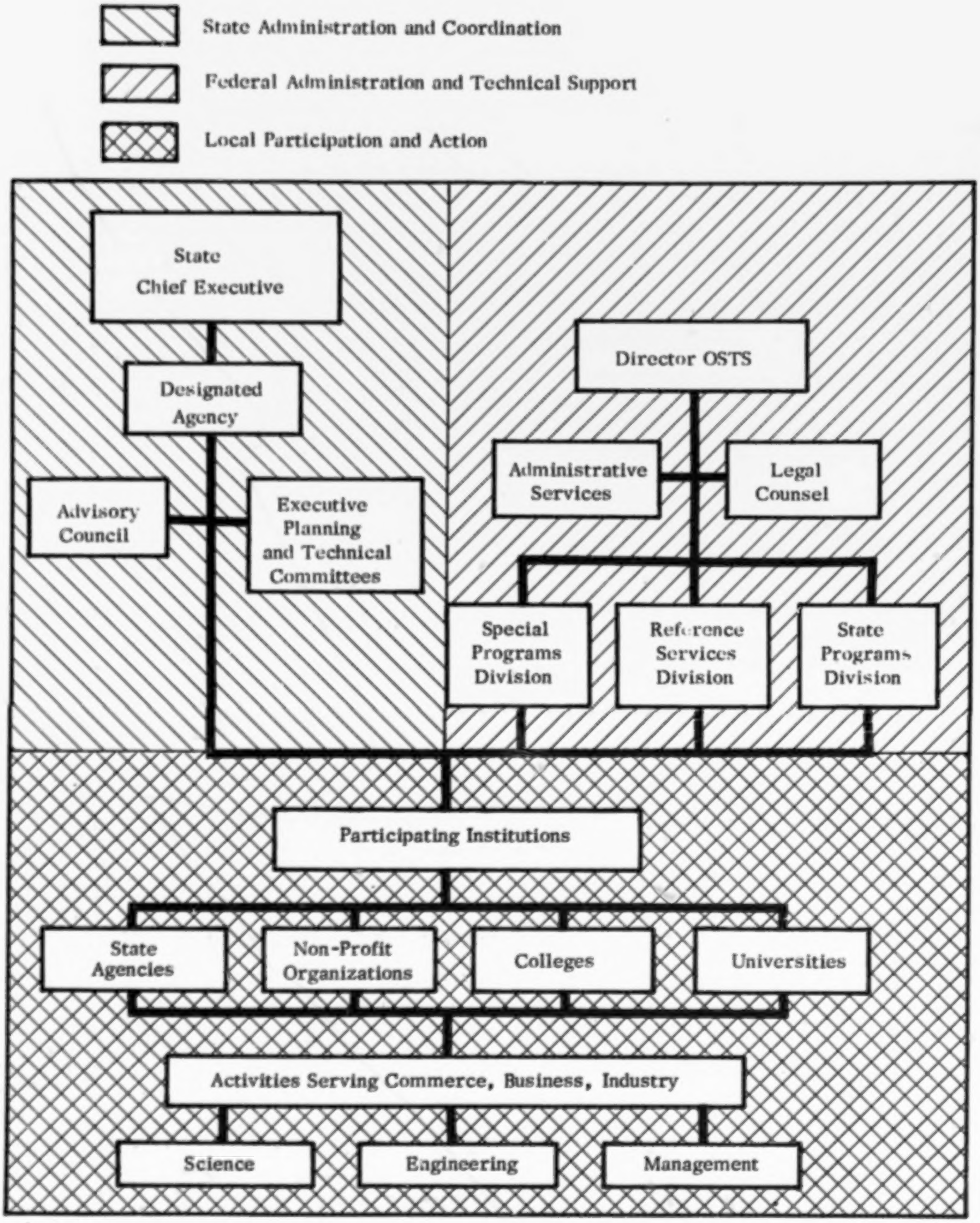

State Administration and Coordination
Federal Administration and Technical Support
Local Participation and Action
State Chief Executive
Designated Agency
Advisory Council
Executive Planning and Technical Committees
Director OSTS
Administrative Services
Legal Counsel
Special Programs Division
Reference Services Division
State Programs Division
Participating Institutions
State Agencies
Non-Profit Organizations
Colleges
Universities
Activities Serving Commerce, Business, Industry
Science
Engineering
Management

FIGURE 3 STATE TECHNICAL SERVICES: ORGANIZATION AND ADMINISTRATION

Discussions have been held on an informal and preliminary basis. Although some progress has been made in determining what others are doing, considerably more remains to be done. Until practical mechanisms are established to relate the scientific and technical knowledge generated or maintained by these various governmental institutions to the STSP, the program will not operate as efficiently as expected. This objective is receiving considerable attention at present, and it is expected that better interfaces with other pockets of governmental, scientific, and technical knowledge will be established in the near future.

f. Funding

Congress has authorized the STSP $10 million for fiscal 1966, $20 million for 1967, and $30 million for 1968. However, it has not been as generous in its appropriations. In 1966, only $3.5 million was appropriated; in 1967, $5.5 million was appropriated, and for 1968–although $11 million, out of an authorized $30 million, was requested by the U.S. Department of Commerce–only $6.5 million has been appropriated by the House of Representatives. The Secretary of Commerce is now (September 1967) seeking full restoration of the original $11 million requested when the appropriations bill goes to the Senate.

Assistance under the STSA is furnished in the form of a federal grant in support of equal matching funds from state government and industry sources. Maximum amounts that may be paid to the state are fixed in accordance with regulations by the Secretary of Commerce. These regulations take into consideration for each state: (1) population according to the last decennial census; (2) business, commercial, industrial, and economic development and productive efficiency; and (3) technical resources. Thus, the amount of federal funds to further the purposes of the STSA allocated to each state is limited by the state's population and economic development, as well as by the amount which the state government is itself willing to invest in its technical services program.

An amount equal to not more than 5% of the appropriations is available to the Secretary of Commerce for administering the program. The Secretary can also make annual payments from the appropriation to each designated agency, participating institution, or person authorized to receive payment in support of the program. Of the funds appropriated each year, 20% may be reserved for payments directly by Washington to designated agencies or participating institutions for technical services programs with special merit, without regard for their state locations. Funds paid out to the states generally cannot exceed the amount of non-federal funds employed. The only exception is an outright planning grant requiring no matching funds; in this case the Secretary may pay up to $25,000 per year to a designated agency for it to draw up a five-year plan and an initial technical services program.

Once the five-year plan and a technical services program have been submitted to the OSTS in Washington by the designated agency, it is not eligible for further planning grants. Funds cannot be paid out for a program which duplicates one already available in the state.

Thus, three types of grants are availabe to finance the programs:

(1) *Planning Grants* are made initially to states to help them compile a five-year forecast and design a technical services program.

(2) *Program Grants* must be matched by state and local funds available for workshops, symposia, and other programs conducted by participating institutions. The ceiling for these grants depends on various technical and economic characteristics of a state (e.g., population, economic development).

(3) *Special Program Grants* can be made by the Secretary of Commerce on a matching basis to fund programs of special merit.

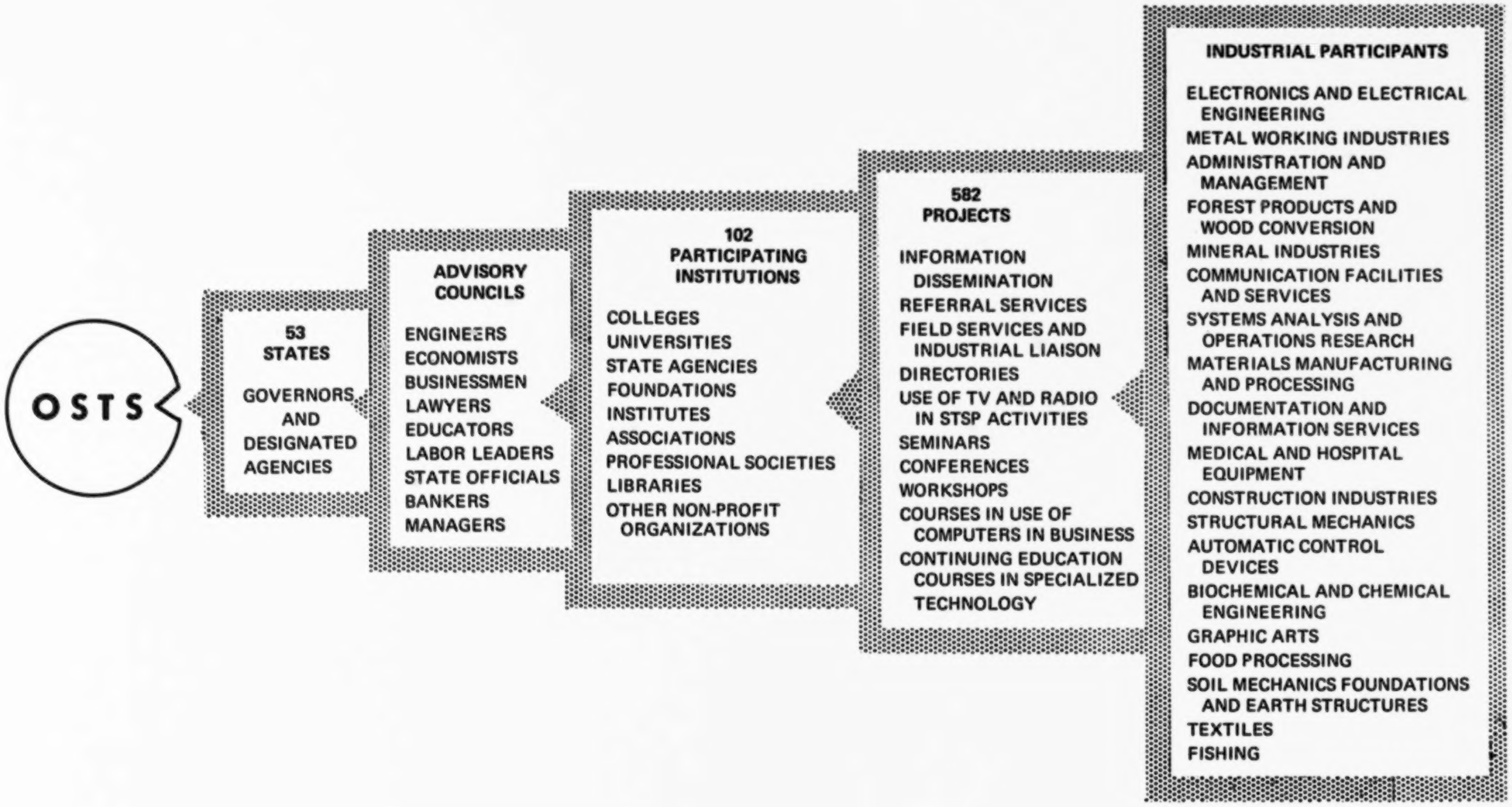
2. State Level

a. Organization

The individual state programs implemented under the STSA vary significantly. Their organization and character reflect local objectives, problems, planning, leadership, and resources. Under STSA, each state designs and administers its own program to conform to the five-year plan submitted to and approved by Washington. Federal assistance is provided in the form of grants available to match state and local fund contributions.

The governor of each state has designated an agency to administer and coordinate the program. Figure 4 emphasizes the wide participation of institutions and individuals at the state level as of the end of fiscal year 1966.

The agency designated by the governor–"designated agency"–is responsible for inviting all qualified institutions within the state to participate in the program. Qualified institutions are defined as educational institutions that grant a degree in engineering, science, or business administration, and certain other nonprofit organizations. It is the responsibility of the designated agency to obtain proposals from institutions within the state for individual technical services programs. The designated agency also must certify that at least one-half of the money to be employed in the overall program will be raised from non-federal sources. In brief, the designated agency can be thought of as a conduit for funds and information between the Federal Government and the participating institutions. In some states the agency is the Department of Commerce; in others, it is an educational institution.


OSTS
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STATES
GOVERNORS,
AND
DESIGNATED
AGENCIES
ADVISORY
COUNCILS
ENGINEERS
ECONOMISTS
BUSINESSMEN
LAWYERS
EDUCATORS
LABOR LEADERS
STATE OFFICIALS
BANKERS
MANAGERS
102
PARTICIPATING
INSTITUTIONS
COLLEGES
UNIVERSITIES
STATE AGENCIES
FOUNDATIONS
INSTITUTES
ASSOCIATIONS
PROFESSIONAL SOCIETIES
LIBRARIES
OTHER NON-PROFIT ORGANIZATIONS
582
PROJECTS
INFORMATION DISSEMINATION
REFERRAL SERVICES
FIELD SERVICES AND INDUSTRIAL LIAISON
DIRECTORIES
USE OF TV AND RADIO IN STSP ACTIVITIES
SEMINARS
CONFERENCES
WORKSHOPS
COURSES IN USE OF COMPUTERS IN BUSINESS
CONTINUING EDUCATION COURSES IN SPECIALIZED TECHNOLOGY
INDUSTRIAL PARTICIPANTS
ELECTRONICS AND ELECTRICAL ENGINEERING
METAL WORKING INDUSTRIES
ADMINISTRATION AND MANAGEMENT
FOREST PRODUCTS AND WOOD CONVERSION
MINERAL INDUSTRIES
COMMUNICATION FACILITIES AND SERVICES
SYSTEMS ANALYSIS AND OPERATIONS RESEARCH
MATERIALS MANUFACTURING AND PROCESSING
DOCUMENTATION AND INFORMATION SERVICES
MEDICAL AND HOSPITAL EQUIPMENT
CONSTRUCTION INDUSTRIES
STRUCTURAL MECHANICS
AUTOMATIC CONTROL DEVICES
BIOCHEMICAL AND CHEMICAL ENGINEERING
GRAPHIC ARTS
FOOD PROCESSING
SOIL MECHANICS FOUNDATIONS AND EARTH STRUCTURES
TEXTILES
FISHING

FIGURE 4 BROADENING PARTICIPATION AT SUCCESSIVE LEVELS OF STSP OPERATION

b. Implementation Method

The method of implementing STSP varies radically from state to state and depends on the resource base of a state, its initiative, and the extent to which it has institutions prepared to participate. The following framework for implementation, however, is standard:

The governor of the state designates an agency to administer and coordinate the program; this agency then submits to the OSTS in Washington a five-year plan which:

(1) Outlines the technical and economic conditions in the state and identifies major regional industrial problems;

(2) Identifies general approaches to be used in resolving these problems; and

(3) Explains methods to be used in administering and coordinating the STSP.

The designated agency outlines the annual technical services program; this outline includes:

(1) Specific methods for accomplishing goals;

(2) Budgetary procedures for fiscal control, etc.; and

(3) Specific responsibilities assigned to each participating institution by the state.

Each designated agency has an Advisory Council–with broad representation from business, industry, labor, and education–to review its technical program, evaluate its relevance to the purposes of STSA, and make recommendations to the designated agency and the governor.

c. Experience

Implementation of the STSP has revealed that frequently the needs of industry are not necessarily scientific or technical. As a result, there is some question as to whether the program is designed to meet the core needs of industries. Often, what industry requires is a better understanding of business practices, such as inventory or financial control, marketing, and production. Since the STSP cannot provide such counsel, it must be solicited from such agencies as the Small Business Administration. To continue effective operations, designated agencies must not dissipate their energies among many competing institutions which lack coordination and a sense of common purpose.

d. The New York State Technical Services Program

Governor Rockefeller designated the New York State Department of Commerce to administer and coordinate the STSP. A nine-man statewide Advisory Council, nominated by the Governor, has provided counsel to the New York State Department of Commerce in the selection of participating institutions and the administration of the program.

In 1967, 20 institutions participated in the New York State Program. It was launched with 18 participants, but 2 more subsequently joined. Each participating institution has its own advisory council to help it determine the needs of the area it serves and to measure the impact of the program.

Like other designated agencies, the New York State Department of Commerce submitted a five-year plan to the OSTS in Washington to qualify for inclusion in the program. This plan was approved. It is based on the division of the state into seven principal areas, with each area to be served by one or more participating institutions.

The New York State program classifies participating institutions as either subject- or area-oriented. The latter participants serve geographic areas; the former specialize in fields of knowledge. For example, Pratt Institute disseminates design and packaging know-how through seminars, symposia, and similar programs.

The five-year program was designed to build the state technical services operation in three discrete phases. Phases I and II covered the period from July 1, 1966 to June 30, 1967. Phase III covers the period from July 1, 1967 to June 30, 1968; the end of fiscal year 1968 marks the end of the three-year trial program.

Table 3 outlines total costs for Phase II of the New York STSP; the 20 participating institutions received total funding of $600,000, suballocated as indicated.

TABLE 3

COSTS FOR THE NEW YORK STSP FUNCTIONS, PHASE II

	Survey of Industry[1]	Develop and Maintain Information Bank[1]	Disseminate Technical Information	Referral Services	Symposia Workshop Seminars	Administration	Total
$	34,367	65,104	192,448	74,009	212,692	21,380	600,000
%	6	11	32	12	35	4	100

1. Fordham University's industry survey costs were funded entirely in Phase I; Manhattan College's funds to develop and maintain an information bank were provided entirely in Phase I.

Source: Revised Project Analysis-Phase II, New York State Technical Services Program.

An examination of the cost pattern in Table 3 reveals several key facts. These can be highlighted as follows:

(1) Out of total funding of $600,000 for Phase II, 35% was spent on what could be termed "Active Transfer Programs," or symposia, workshops, seminars, etc. These programs extend universities' knowledge or expertise to a broader public, with little out-of-pocket cost (some overhead expense) incurred by the university. These programs have not directly affected a wide audience, since seminars are limited in size and are infrequent. Their indirect effects are not known.

(2) Of the total cost, 32% was allocated to the dissemination of technical information. This can be termed a "passive" but, nevertheless, important transfer. In large measure this reflects the preparation and mailing of technical materials to a wide audience.

(3) The remaining 33% of Phase II cost was spread over industry survey, information bank, and referral service activities. At present, these are not key activities in the New York State program, since they enjoy only moderate financial support; however, interview findings suggest that most participating institutions feel much greater emphasis should be placed in these areas.

Of the 20 participating institutions in New York State, 10 are subject-oriented, 10 are geographically oriented, and 5 are both subject-oriented and geographically oriented. The subject areas are as follows: ceramics, nuclear research, graphic arts, food, forest industries, graphic arts and garment industry, design and packaging, air pollution, geology, and industrial water pollution.

As shown in Figure 5, participating institutions, with emphasis identified, are:

Name	**Emphasis**
University of Rochester	Geographic
State University of New York College of Ceramics at Alfred University	Ceramics
State University of New York at Buffalo	Geographic
Western New York Nuclear Research Center, Inc.	Nuclear Research
Rochester Institute of Technology	Graphic Arts/ Geographic
Cornell University College of Engineering	Geographic
Cornell University College of Agriculture	Food Technology
Syracuse University	Geographic
State University College of Forestry at Syracuse	Forest Industries
Rensselaer Polytechnic Institute	Geographic
Polytechnic Institute of Brooklyn	Geographic
State University of New York at Stonybrook	Geographic
New York University	Graphic Arts and Garment Industry/ Geographic
Pratt Institute	Geographic, Design and Packaging
	Geographic
Fordham University*	Geographic, Business
Manhattan College	Industrial Water Pollution/Geographic
St. Lawrence University	Geology
The City College, City University of New York	Geographic
Cooper Union	Air Pollution/Geographic
State University of New York at Binghamton	Geographic
Clarkson University	Geographic

In addition to the regular program grants, two special program grants have been made in New York State as of March 1967. In fiscal year 1966, the Civil Engineering Department of Cornell University received a grant to serve the construction industry in the state. In fiscal year 1967, Packaging Institute, Inc., received a grant for an education program designed to provide training in the application of physics, chemistry, metallurgy, mechanical engineering, and industrial engineering to packaging technology; and to disseminate knowledge of innovation and development in packaging technology to the industry.

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*To be deactivated.

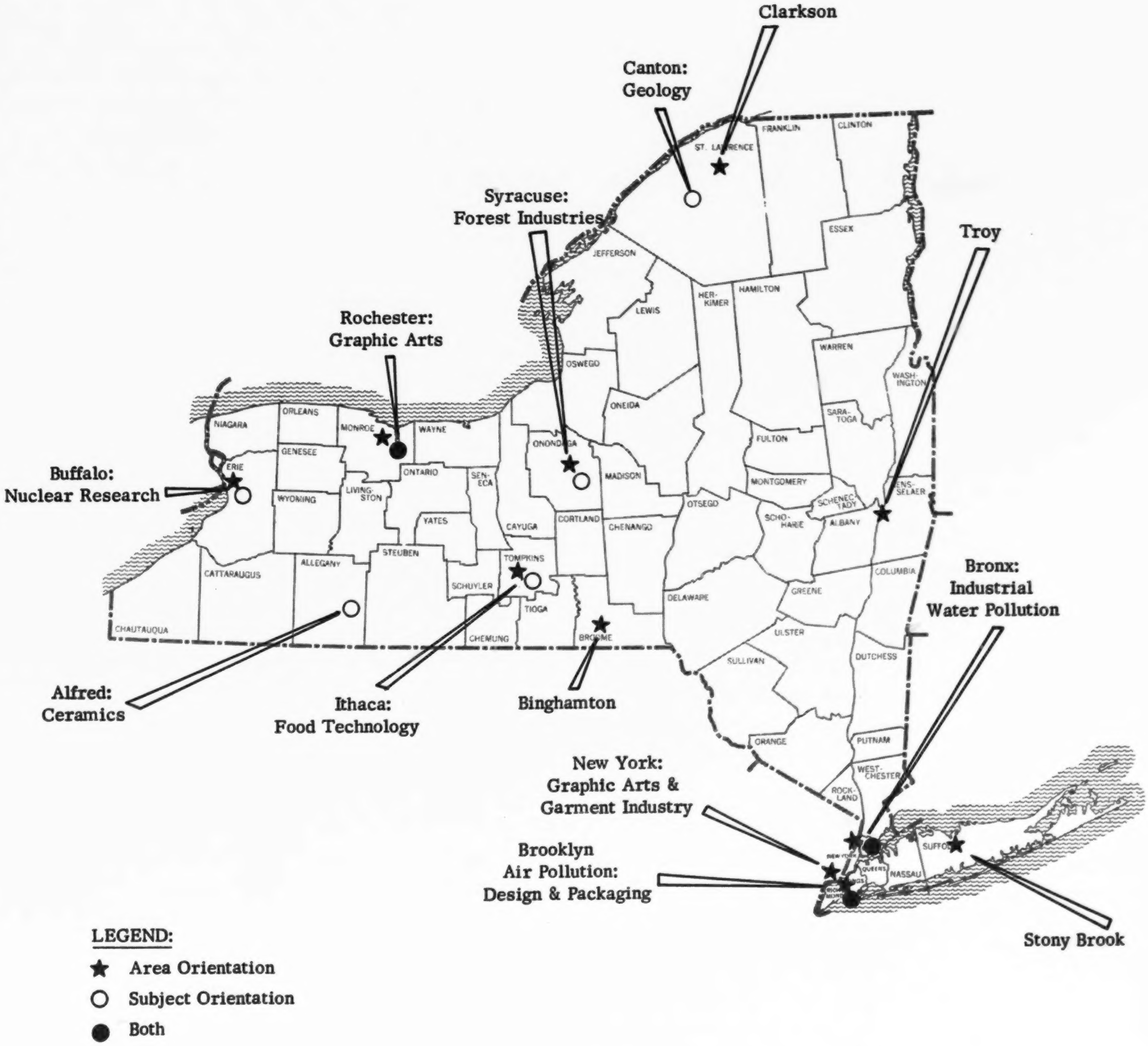
Clarkson
Canton: Geology
Syracuse: Forest Industries
Troy
Rochester: Graphic Arts
Buffalo: Nuclear Research
Bronx: Industrial Water Pollution
Alfred: Ceramics
Ithaca: Food Technology
Binghamton
New York: Graphic Arts & Garment Industry
Brooklyn Air Pollution: Design & Packaging
Stony Brook
ST. LAWRENCE
FRANKLIN
CLINTON
ESSEX
JEFFERSON
LEWIS
HER-KIMER
HAMILTON
WARREN
WASH-INGTON
OSWEGO
ONEIDA
SARA-TOGA
FULTON
NIAGARA
ORLEANS
MONROE
WAYNE
ONONDAGA
MADISON
MONTGOMERY
ERIE
GENESEE
ONTARIO
SEN-ECA
LIVING-STON
WYOMING
YATES
CAYUGA
CORTLAND
CHENANGO
OTSEGO
SCHENEC-TADY
SCHO-HARIE
ALBANY
RENS-SELAER
CATTARAUGUS
ALLEGANY
STEUBEN
TOMPKINS
SCHUYLER
COLUMBIA
GREENE
DELAWARE
CHAUTAUQUA
TIOGA
CHEMUNG
BROOME
ULSTER
DUTCHESS
SULLIVAN
ORANGE
PUTNAM
WEST-CHESTER
ROCK-LAND
NEW YORK
QUEENS
NASSAU
SUFFOLK
KINGS
RICHMOND
LEGEND:
★ Area Orientation
○ Subject Orientation
● Both

FIGURE 5 STATE TECHNICAL SERVICE PROGRAM (STSP) LOCATIONS

B. ASSESSMENT

To assess the contributions, operating problems, and method of operation of the New York STSP, ADL conducted interviews with 13 of the 20 participating institutions. Eight of these institutions were subject-oriented and 5 were area-oriented. We analyzed our interview responses to characterize the New York STSP by structure and function. The results of our analysis follow.

1. Building on Strength

The New York program places the major responsibility for the choice of participating institutions in the hands of the state-designated agency. One measure of the excellence of such choices is whether the institutions chosen have considerable previous experience in the functions which they are to perform for the STSP. On the basis of this criterion, a major segment of the New York STSP offers considerable benefits administered in an efficient manner. Among the institutions participating are academic institutions which have strong departments specializing in a specific subject area, and similarly qualified institutions, such as the Western New York Nuclear Research Center, which are related to academic institutions, although not, strictly speaking, part of them. Many of these participating institutions contain groups of professionals who have devoted their lives to a specific subject area. They are extremely skilled at imparting and disseminating information on that subject area, and at providing guidance to sources of information and expert assistance. The New York STSP's subject-oriented programs are very strong.

2. Convenience of Location

The criterion of choosing institutions that are not far from the business or industry that would use them sometimes conflicts with that of choosing institutions located in places where technical expertise and specialization is strongest.

Ten New York STSP participating institutions have area orientations: State University at Buffalo, University of Rochester, Cornell University College of Engineering, Syracuse University, Rensselaer Polytechnic Institute, Polytechnic Institute of Brooklyn, State University of New York at Stonybrook, City College of the City University of New York, State University of New York at Binghamton, and Clarkson University.

Five institutions are subject- as well as area-oriented: Rochester Institute of Technology, New York University, Pratt Institute, Manhattan College, and Cooper University.

The area-oriented participating institutions are reasonably well scattered throughout the state. In our opinion, the locations of participating institutions are of less importance than the subject orientation. The State of New York is not so large that communication by telephone or by mail from one end of the state to the other is a major problem.

3. Coordination Among Participating Institutions

As far as can be determined, the New York STSP does provide coordination to reduce conflict and duplication among the participating institutions. The centralized structure of the New York STSP (like that of other states) and the fact that the New York STSP headquarters must approve the application and proposal of each candidate participating institution, should insure that duplication does not take place.

There is duplication in subject matter between the programs of the Rochester Institute of Technology (RIT) and New York University (NYU). Both include technical services in graphic arts. RIT, however, is oriented toward upstate New York, and NYU to the Metropolitan New York area.

4. Relationships to Clients

The STSP concentrates on American commerce, business, and industry. Thus, to the extent that common needs arise, there is an efficient concentration of effort. The New York STSP is primarily oriented to industry, rather than business, since the infusion of technical and scientific knowledge in nonmanufacturing businesses does not appear to be a primary need. Although most business concerns require assistance in marketing, finance, and organization, because of legal restrictions, the STSP cannot furnish assistance in these areas.

About half of the New York STSP participants we surveyed are using, or have used, questionnaires to determine the needs of industry (in their areas or throughout the state in industries related to their program). The information thus obtained has been used as a basis for adapting their programs to serve the industries better. However, only one of these STSP participants felt there was strong public awareness of its existence, its role, and the assistance it can furnish, whereas five of them felt that there was little awareness of these factors.

Some are making efforts to inform business of their existence and acquaint them with their capabilities. The surveys thus serve a dual purpose; they inform business that STSP exists and at the same time they gather information.

Much more could be done to acquaint industry with what STSP can do for it; for example, increased newspaper publicity, talks before industry and business groups, and word-of-mouth communication among industry people concerning services that have been rendered to them by STSP participating institutions. Publicity about the STSP could also be disseminated through trade associations. Here again, not much seems to have been done; much ought to be.

The special librarian can also serve a very useful purpose in carrying out the role of acquainting professional, scientific, and engineering people with what the New York STSP can do for them. Particularly, since STSP is oriented toward engineers and their information needs, special librarians should be made aware of its capabilities, and should be encouraged to transmit this awareness to the professionals, scientists, and engineers in their institutions. To our knowledge, STSP has not yet made any special effort to work through special librarians.

5. Imparting Information

One major declared function of the New York STSP is to "sponsor industrial workshops, seminars, training programs, extension courses, demonstations, and field visits designed to encourage the more effective application of scientific and engineering information."*

This active dissemination of information about new technical developments is one of the priority programs in the New York organization. About 30 such seminars have been presented. Nine of the thirteen participating institutions indicated that they were conducting seminars. Six charged service fees for the seminars; most of the remainder intend to charge fees in the future.

Such seminars cannot have a large direct effect, since only limited numbers of people attend them. We have no way of measuring the indirect effects: for example, if one man in a company attends a seminar on the uses of computers in business, how many people in his company hear about the seminar, and begin to appreciate what computers can do for them, and then take action based thereon?

However, it seems that such programs of active dissemination of information show promise of becoming major diffusers of innovation. The seminars are deliberately being given at various points in the state, to achieve geographical coverage. We have no way of evaluating their quality, except from comments by participating institutions that they received favorable feedback from those who attended the seminars and workshops.

Some of the participating institutions periodically publish newsletters, bulletins, and educational and informational reports, in which they discuss new technical developments in an industry. Such periodicals make industry members aware of the general nature of new developments and may stimulate them to obtain more detailed information.

In this manner, the STSP is performing in the active mode of information transfer–that is, assisting industry in defining its information needs. The 3R's Program, working in the reactive role, should follow through on these initiatives by providing backup information, such as bibliographies and reading lists. Through its workshops and seminars, STSP awakens an interest in subjects and transmits basic knowledge. Those who have attended STSP seminars can then expand this knowledge by using the 3R's library facilities.

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*The New York State Technical Services Program, New York State Department of Commerce (no date) p. 3.

6. Locating Information

Another avowed function of the New York STSP is "preparing and disseminating technical reports, abstracts, computer tapes, microfilms, reviews, and similar scientific or engineering information, including the establishment of state or interstate information centers for this purpose."*

Information location includes two sub-functions. Suppose that we start out with a researcher, engineer, or businessman, who feels that he needs to know more about a given subject, say nuclear radiation, to improve his business or his product. He must first find out what kinds of information are available in this subject area that are relevant to his industry or business. Two kinds of information are available: hard copy and that from individual experts. (Hard copy includes books, pamphlets, journals, reports, etc.; experts include people who are extremely knowledgeable on the subject.) After our searcher has found what information is available, he needs to know where it can be obtained.

The New York STSP participating institutions have particular strength in the area of locating information, for certain subjects. No claim is made by them or in their support that the subjects encompass all knowledge. However, they were chosen to be of particular relevance to the needs of industry in New York State. The participating institutions have particular strengths in the area of data location, since typically they are academic or semi-academic and have worked for many years in specific subject areas, building up their knowledge of the literature and developing experts.

7. Transferring Information

Even when a scientist, engineer, or businessman knows what information he needs and where it is located, the information must somehow be made available to him. The STSP does not maintain large holdings of books and documents, but this is as it should be, since this function is properly one that belongs to the libraries.

8. Relationships with Local Libraries and 3R's

Eight of the New York STSP participating institutions interviewed indicated that they are interfacing extensively with the local library network; five indicated that they were using this network on a limited basis.

Nine of the thirteen STSP respondents indicated an indifferent or unclear perception of the 3R's Program; one indicated an unfavorable perception of the 3R's Program; four have a favorable perception of the 3R's Program. The one unfavorable perception was based on the belief that there is excessive duplication between the 3R's Program and the New York STSP. In general, even when there is knowledge about the 3R's Program on the part of the New York STSP participating institutions, there is very little evidence of any working relationship. One distinguishing characteristic of the two programs, which greatly

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*Ibid.

affects their service patterns, is the fact that STSP is aimed at the technological problems of segments of specific industries, while the 3R's Program is designed to deal with the full range of informational needs of individual businessmen.

C. SUMMARY

We must look not only at the functions presently being accomplished by the STSP, but also at those which they plan. The typical subject-oriented STSP activities seem to be based on existing programs, or at least existing areas of competence. Many of these are already in operation; whereas the area-oriented STSP activities, which have only been in existence since fiscal year 1966 seemed to be still in the planning stage. However, since planned programs may develop into actual programs, they must be taken into account when we give attention to reducing the probability of overlap between the STSP and the 3R's Program. The STSP is strong in its information about information; that is, for specific subjects, it can help the engineer, scientist, or business man find out what information is available. Another strength is that participating institutions have considerable experience in the areas of their programs. A third strength is the focused orientation of the STSP to industry and business. Finally, by concentrating on specific industries and sending surveys to find out their needs, the STSP in New York State knows more about these needs than anyone else.

A remediable weakness of the New York STSP is its diffusion between regional and subject orientations. Its participating institutions with subject orientation seem better able to fulfill their functions. Finally, the STSP is weak on storage of materials; however, this was never conceived to be one of its functions, and is best left as a service of libraries.

Two of our STSP respondents indicated that they had a computerized data bank which indicates where various items of information may be found. Three STSP respondents have computerized data banks giving the names of publications on various subject-areas within their purview. Eight STSP respondents indicated that they have location data on card files. Five of the thirteen STSP respondents indicated that they maintain lists of people for referral services. Eleven of the thirteen STSP respondents indicated that they maintain strong coverage of available documents in given subject areas.

We have no information on the speed with which STSP participating institutions can locate a specific item of information for an engineer or businessman. The participating institutions do perform two kinds of computer bibliographic searches. One example is the type of service which will shortly be available from the State University of New York at Buffalo. For given areas of the sciences, a scientist or engineer can indicate a profile of subject matters of interest. The Information Dissemination Bureau receives, weekly, computerized abstracts of journal articles in the pure sciences. The abstracts include subject matter key words. Abstracts relating to any or all of the areas of interest to a particular research scientist or engineer can be selected and collated by computer and sent to him monthly. He can then, of course, choose from among those abstracts sent to him the complete article or articles which he is interested in reading.

Once the information file of abstracts has been built up, it can also be made available for a second type of bibliographic search; namely, that done on an *ad hoc* basis, again searching for articles with specific descriptors. The STSP participating institutions in New York State also plan to do these kinds of bibliographic searches.

Banks of such abstracts on computer tapes do not really add to our information about scientific articles. The same abstracts are published in hard-copy publications; thus, the same kind of bibliographic searches can be done manually. However, the computer method generally is quicker and more efficient and accurate. To the extent that STSP participating institutions build up this capability to advise clients about the location of information, they will be building upon strength and performing a useful function.

V. REFERENCE AND RESEARCH LIBRARY RESOURCES (3R'S) PROGRAM

A. DESCRIPTION

> "As you all know, the root idea of the current 3R's Program stems from the Report of the Commissioner's Committee on Reference and Research Library Resources of 1961. This report stressed the need to build on existing strengths, the need for State aid, the importance of a single plan for college and research library needs, and the need for a plan of sufficient flexibility to adapt to changes in modern technology. The report recommended a program at both the State and regional levels. Legislation was introduced from 1961 through 1965 but failed to pass. Then, in June 1965, Governor Rockefeller convened the First Governor's Conference on Libraries. As an outgrowth of this conference and subsequent recommendations of the Governor's Library Committee, we secured in 1966 an increase in State aid for public library systems and the appropriation of $700,000 to begin the reference and research library resources program." *

At the present time, there are nine reference and research councils in New York (Figure 6).

(1) Capitol District Library Council for Reference and Research Resources: Albany, Fulton, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington Counties;

(2) Long Island Library Resources Council: Nassau and Suffolk Counties;

(3) New York Metropolitan Reference and Research Library Agency, Inc.: New York City (Manhattan), Kings (Brooklyn), Queens, Bronx, Richmond, and Westchester Counties;

(4) North Country Reference and Research Resources Council: Clinton, Essex, Franklin, Jefferson, Lewis, Saint Lawrence, and Oswego Counties.

(5) Rochester Regional Library Council: Livingston, Monroe, Ontario, Wayne, and Wyoming Counties;

(6) Southeastern (NY) Library Resources Council: Columbia, Dutchess, Greene, Orange, Putnam, Rockland, Sullivan, and Ulster Counties;

***The Giant and The Midget**, talk given at a meeting on New York State library development, March 3, 1967; **The Reference and Research Library Program Status and Needs,** by Jean L. Connor, Director, Division of Library Development.

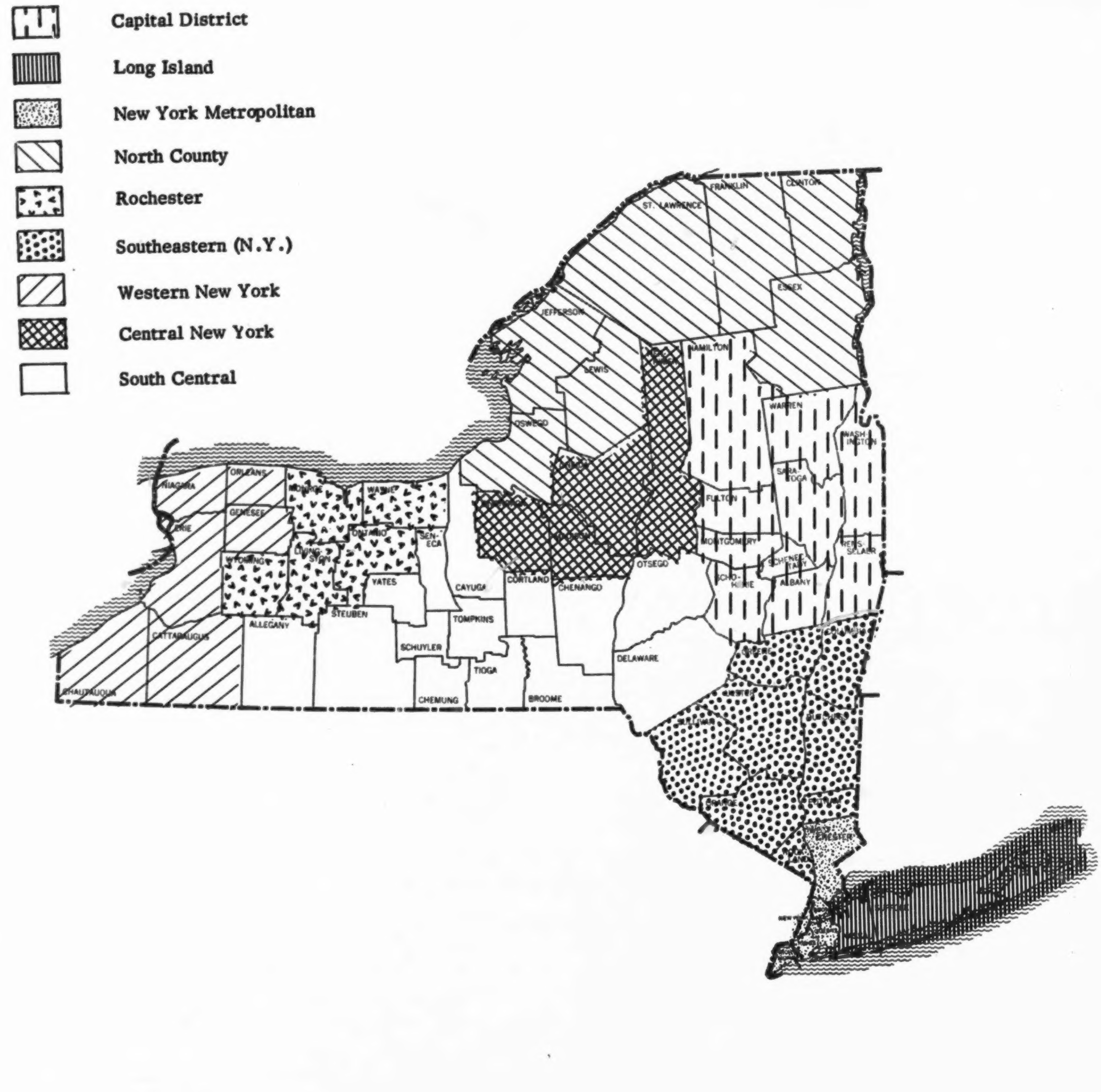
▥ Capital District
▥ Long Island
▒ New York Metropolitan
▧ North County
▨ Rochester
▒ Southeastern (N.Y.)
▨ Western New York
▩ Central New York
☐ South Central
FRANKLIN
CLINTON
ST. LAWRENCE
ESSEX
JEFFERSON
LEWIS
HAMILTON
WARREN
WASH-INGTON
OSWEGO
SARA-TOGA
FULTON
MONTGOMERY
RENS-SELAER
SCHENEC-TADY
SCHO-HARIE
ALBANY
OTSEGO
CHENANGO
CORTLAND
CAYUGA
TOMPKINS
SCHUYLER
TIOGA
CHEMUNG
BROOME
DELAWARE
NIAGARA
ORLEANS
GENESEE
ERIE
WYOMING
MONROE
WAYNE
ONTARIO
LIVING-STON
SEN-ECA
YATES
STEUBEN
ALLEGANY
CATTARAUGUS
CHAUTAUQUA

FIGURE 6 REFERENCE AND RESEARCH LIBRARY (3 R's) COUNCILS

(7) Western New York Library Resources Council: Cattaraugus, Chautauqua, Erie, Genessee, Niagara, and Orleans Counties;

(8) Central New York Reference and Resources Council: Onondaga, Oneida, Madison, Herkimer Counties; and

(9) South Central Research Library Council: Allegheny, Steuben, Yates, Seneca, Cayuga, Schuyler, Tompkins, Chemung, Tioga, Courtland, Chenango, Broome, Otsego, and Delaware Counties.

B. CAPACITIES AND OPPORTUNITIES

"The purpose of the program is to provide improved access to advanced reference and research library materials to such serious library users as college faculty, college students, graduate students, industrial and scientific researchers, writers, doctors, scholars, and other professional persons.

"The proliferation of books and periodicals from the publishers of the world has made it increasingly difficult for libraries to be self-sufficient in meeting reference and research demands. A coordinated network involving academic, large public, and special libraries is needed.

"The ultimate goal of the 3R's Program is to meet the advanced library needs of users throughout the State. As reference and research libraries join together in a cooperative network assisted by the State Library as a clearinghouse for referrals within and without the State, and as further funding becomes available to assist this network, so will our capacity to serve research library users grow. New York State has embarked on a library program which is bold and imaginative."*

The 3R's Program now consists of the following building blocks:

(1) Establish nine reference and research councils;

(2) Provide funding of $35,000 to each council in 1967-1968 to assist in planning and organizational work;

(3) Implement electronic data processing projects: (a) Design a catalog maintenance system; (b) Design an acquisition and processing system; and (c) Automate the State Library serial section;

(4) Implement facsimile transmission project; and

(5) Implement the interlibrary loan program known as the NYSILL project.

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*The 3R's: Reference and Research Library Resources; a pamphlet published by the University of the State of New York; The State Education Department, The New York State Library; Division of Library Development; Albany, New York; December 1966, pp. 1 and 5.

The directions of the individual 3R's regions in implementing these steps will vary according to the needs of the region. Full operation of the regional systems depends on further state funding.

1. Facsimile Transmission Project (FACTS)

FACTS is a pilot project, which was begun in February 1967 and is scheduled to run through March 31, 1968. The purpose of the program is to provide serious library users with urgent library needs, rapid access, by facsimile transmission to the required documents. The fourteen stations in the network are:

(a) Receiving and Sending Facilities:

- New York State Library,
- New York Public Library,
- Cornell University,
- Columbia University,
- Buffalo and Erie County Public Library,
- Munroe County Library System;

(b) Receiving Stations:

- Nassau Library System,
- Suffolk Cooperative Library System,
- Westchester Library System,
- Mid-Hudson Libraries,
- State University of New York at Albany,
- Mid-York Library System,
- State University of New York at Potsdam, and
- State University of New York at Binghamton.

The State Library acts as a switching center for the various stations. As with most pilot projects, there have been problems, and use has tended to be spotty. Nelson Associates of New York City is evaluating this pilot program.

2. New York State Interlibrary Loan Network (NYSILL)

NYSILL is a program designed to provide materials not previously available through the library network. The program extends the library network to three area referral centers and eight subject centers. These eleven institutions act as a backup to the New York State Library, which previously was the last backup in the state's interlibrary loan network. These libraries provide materials, under contract, filling requests forwarded to them by the New York State Library on the basis of subject, area, or both. The contracting libraries are:

(a) Area Referral Centers:

- Brooklyn Public Library,
- Rochester Public Library (Munroe County Library System), and
- Buffalo and Erie County Public Library System.

(b) Subject Referral Centers:

- The Metropolitan Museum of Art Library,
- The Engineering Societies Library,
- The New York Academy of Medicine,
- Union Theological Seminary,
- Teachers College Library
- Cornell University Libraries,
- Columbia University Libraries, and
- The New York Public Library.

NYSILL is a pilot project, and procedures are being revised as necessary. It was initiated in March 1967 and the pilot project is scheduled to run through March 1968. This program is also being evaluated by Nelson Associates.

C. OBJECTIVES

The overall objective of the 3R's Program is to provide for the research needs of students, faculty, professional men, businessmen, and other persons interested in serious research. Plans call for this service to be accomplished through use of modern technology in an effective administrative network, building on existing strengths in the areas of services and resources.

Specific objectives are:

(1) To serve the research needs of the total community;

(2) To improve resources, both regional and state;

(3) To develop inventory tools to determine areas of resource weaknesses and to permit more effective retrieval of material;

(4) To make the resources of the colleges and universities available through the state library network; and

(5) To establish a closer rapport with special libraries in the state.

D. ORGANIZATION AND ADMINISTRATION

The 3R's Program is organized under the New York State Library and funded from the Governor's Budget. The two advisory committees, each with nine members, are:

(1) Regents Advisory Committee, which is concerned with all library work, and

(2) The Commissioner's Advisory Committee on Library Development, which was appointed by the Commissioner of Education to review the public library system report and the current status of 3R's Program.

On the regional level, the state has been completely organized into nine chartered 3R's regional systems. All have boards of trustees composed of lay members as well as librarians. Among the principal responsibilities of the system board are:

(1) Hiring a director,

(2) Establishing policy and planning programs, and

(3) Receiving and controlling funds.

E. RELATIONSHIP TO OTHER GOVERNMENT PROGRAMS

The 3R's Program will build on existing strengths. Since the program is really part of the larger state library network, the objective is to increase rather than to duplicate resources and services.

Discussions have been underway with the administration of STSP to define areas of responsibility so that overlapping of services can be avoided. It was a desire to see the relationship between the two programs clearly defined which led to this study.

F. FUNDING

In 1966, $700,000 was appropriated so that the 3R's Program could be started; in 1967, $850,000 was appropriated. Most of these funds have been allocated to statewide projects, with up to $35,000 available to each region for planning purposes. In 1968, a sizable increase in funding probably will be requested so that the programs now being planned can be implemented.

On the regional level, each of the nine regions will submit a plan of service. The New York State Library will approve or reject the plan and the request for funding. Several of the systems have directors, and each system is evaluating its needs before developing its program.

On the state level, a list of serials of the New York State Library holdings is being prepared; several studies on the use of the computer as an inventory tool are underway. A fair portion of the 1968 funds will be allocated to improving interlibrary loan, to the consultant work of the Academic and Research Library Bureau, and the implementation of regional programs.

Implementation of the 3R's Program has revealed regional problem areas. The priority areas which have been established are:

(1) Developing effective communication and delivery networks within the regions;

(2) Building administrative staffs;

(3) Resource planning -- determing what strengths exist within the region and what institutions can participate most efficiently in the building program;

(4) Building better methods of access to materials -- developing regional inventory tools, such as union catalogs and union lists of serials;

(5) Determining what should be done to meet the specialized needs of the users; and

(6) Developing special projects to meet local needs.

At present, Metro, the New York-Westchester Reference and Research Library System, the most advanced of any of the 3R's Programs, offers, or plans to offer:

(1) Technical services cooperation in the metropolitan area and elsewhere;

(2) Studies of library use, use privileges, reciprocal fees, and acquisitions;

(3) Evaluation of science libraries in the area and needs for science libraries;

(4) Centralized storage of little-used material;

(5) Studies of transportation, delivery, and communications;

(6) Analysis of recruitment and interlibrary training problems;

(7) Provision of an interlibrary clearinghouse to facilitate answering of reference questions; and

(8) Specialized assistance to member libraries in business-oriented subject areas.

Other systems are planning to provide some of these services, and plans also call for:

(1) Preparation of union catalogs and union lists of serials;

(2) Workshops and seminars;

(3) Development of rapid delivery networks; and

(4) Directory of library specialties.

G. EFFECTIVENESS

To assess the contributions, operating problems, and method of operation of the 3R's Program, we conducted interviews with five of the nine regional systems and made several visits to the New York State Library to discuss statewide plans. On the basis of the information gained in the interviews and other available data, we have made the following assessments.

1. Building on Strength

Regions will vary in their plans to build on existing strengths. In many of the regions, the strong resources are either in a few public libraries or in college and university libraries. It seems logical that should funds be allocated for the building of resources, these funds would be used to acquire materials which would be placed in one or more of these agencies. The intention of the 3R's councils to build on existing agencies for services, however, is not quite so clear, partly because the relationship between the 3R's systems and the public library systems is ill-defined. The public library systems provide many services which are related to the aims of the 3R's Program. All types of libraries would find these services useful. The services offered include:

(a) Delivery;

(b) Communication with the State Library via (1) teletype (almost all), (2) facsimile transmission (some), or (3) relationship with state consultants;

(c) Union catalogs (some, not a majority);

(d) Union lists of serials (some, not a majority);

(e) In-service training programs; and

(f) Reference and interloan service.

In a program with limited funding on a regional basis, success will be determined in part by how well the 3R's system makes use of regional services already available through the public library systems.

2. Location

All nine established regions have a broad population base. The location of the 3R's centers within a region will be determined by the location of existing strengths.

3. Coordination of Participating Institutions

The Division of Library Development will coordinate the programs of the participating institutions. The Division will approve plans of service, provide consultants, and organize seminars and workshops. Ultimately, coordination probably will be effected in a manner similar to that used to coordinate the activities of the public library systems and the New York State Library.

4. Relationship to Clients

The 3R's Program must offer services to a vast group of clients. Potential users include university students and faculty, and business and professional men. Students and faculty probably will be the major beneficiaries of the 3R's Program. They generally become familiar with the library network through contact with their school or local library, and they are likely to make more requests for the services offered under the 3R's Program than any other group.

Business and professional men not served by a special library or a university must rely on the public library for assistance in the location of needed material. Many business and professional men do not realize that their public library can provide assistance in obtaining information. They do not realize that if their requests are forwarded through the state network, there are available to them the vast resources not only of the New York State Library but of the entire state network. We believe that the problem of making the businessman aware of the resources available through the 3R's Program has not been effectively solved thus far, and that success with this group of potential users will depend on:

(a) An effective and aggressive publicity program to acquaint professional men and businessmen with the network;

(b) Establishment of a center within each region to handle their requests directly, if necessary; and

(c) Training of public library staffs to handle user requests effectively, and familiarizing of librarians with STSP since, in many cases, this program can provide specialized services requested but not available through the 3R's Program.

5. Locating Information

To serve the 3R's users effectively, the program must have sufficient facilities to provide the right material, at the right time, and in the right place. To provide this accurate efficient service:

(a) Each user, as well as each backup center, must have a clear understanding of all information programs in the area and in the state;

(b) Fast communications and delivery systems must be established so that most requests can be answered within a week;

(c) The New York State Library and the regional systems must improve the bibliographic searching program -- searches must be more extensive and must be performed by individuals with subject orientation relating to the particular request;

(d) The New York State Library and the regional systems must recognize the value to researchers of nonbook materials, particularly published information on government-sponsored research programs;

(e) Reference service to handle specialized needs should be available within each region; and

(f) Computer information-retrieval programs, backing up the regions, should be available at the state level for the more sophisticated searches.

6. Relations with STSP

There is very little interaction between the STSP and the 3R's Program. It is quite possible that this is due to the newness of both programs. Few of the people associated with the 3R's Program know the people from STSP, even though some of the 3R's people had initial contacts with STSP personnel. If a working relationship is not established, the capacity of each program to effectively serve the research community will be lessened.

H. CURRENT RELATIONSHIP BETWEEN STSP AND 3R'S

The complex nature of the geographical relationship of the nine 3R's regions and ten STSP regional centers necessitates cooperative effort and effective communication. The regional designations established for the two programs are not the same; in fact, the territory of one 3R's region interested in exploring cooperative efforts is covered in part by three technical services regional centers. However, the scopes of the two programs vary; and as long as areas of coverage within a program are fully respected, the patron should not become confused. Time and experience may indicate more suitable geographical alignments which could be achieved without disrupting the developing programs.

The resources of the New York State library network are among the greatest in the world. New York Public Library, the New York State Library, Columbia University's and Cornell University's libraries are outstanding, and they collectively contribute to a network which possibly is unrivaled in this country.

√

Information generally is stored in the conventional library manner. The emphasis is on books, periodicals, and documents. Conventional library searching devices are used to obtain information from this material. The library network has tended to serve those who have requested information, which is the passive role in the information transfer process. After 3R's systems are added to the network, it is expected that the network will seek out the needs of and promote the network services to professional men, students, and businessmen. Some evidence of activity in this direction is now visible.

Storage of information is not a major function of STSP; the program is less storage-oriented than is the 3R's Program which, within the client limitations imposed upon the program, will actively seek out clients and client needs. Emphasis will be on computer searches, use of consultants, and bibliographic searches. Retrieval will respond to the specific needs of businessmen and engineers which have been brought to the program as a result of a sales effort on the part of STSP area personnel.

If a division of responsibility develops, as seems likely, the STSP probably will deal almost exclusively with the specific research needs of the scientific community and the dissemination of nonbook information, while the 3R's Program will concentrate on service to students, faculty, and professional persons. These divisions, however, should not be considered rigid. It is important to the success of both programs that each be willing to assist the other whenever the need arises.

VI. RECOMMENDATIONS FOR STRENGTHENING THE 3R'S PROGRAM TO MEET BUSINESS AND INDUSTRY NEEDS

Our recommendations for strengthening the 3R's Program to meet the information needs of business and industry are divided into:

(a) Those which relate to cooperation and coordination between the 3R's Program and the STSP; and

(b) Those which deal exclusively with the 3R's Program.

A. THE 3R'S PROGRAM AND STSP RELATIONSHIPS AT STATE AND REGIONAL LEVELS

The 3R's Program, administered by the New York State Library (which in turn reports to the Department of Education) and the STSP, administered by the Department of Commerce of the State of New York, are autonomous programs. No attempt has been made to coordinate the two programs, nor are there any plans to do so in the future. While this lack of coordination may appear to be the result of an oversight on the part of the state government, under whose auspices both programs exist, our in-depth evaluation of both programs revealed that there is little, if any, overlap or duplication between the two. In fact, the two programs are complementary.

In simplified terms, the STSP is a technical assistance program to industry which, operating in the field, counsels businessmen on new technologies. It is analogous to the Small Business Administration except that it operates exclusively in the scientific and technical, rather than the financial and managerial realm. The 3R's Program is basically an improved information storage and retrieval system designed to meet the information needs of students, faculty, and other researchers, including persons working in business and industry. Its role is reactive; that is, it responds to requests for very specific documents. Unlike the STSP, it does not actively attempt to apply the information contained in these documents to specific technical problems.

The only point where the two programs now intersect is in the area of retrieving documents relating to various technologies in which the STSP specializes (e.g., ceramics, paper technology, nucleonics). Since each of the STSP subject centers is identified with a university, the STSP has access to these documents via that university and its related interloan structure.

1. Provide Library Support to the STSP

In our judgment, the 3R's Program could perform a very useful function if it allocated some of its financial resources to building up collections in those subject areas which the STSP has identified as being inadequately covered. The 3R's would thus provide a backup service to the STSP. Such a service will not restrict the role of the 3R's in serving the needs of business and industry, nor will it make the 3R's subordinate to the STSP. Instead, it will improve both programs by permitting each to concentrate on its areas of strength. Since most businessmen seem to rank library research and reference very low, if at all, among their needs for information, dealing with the businessman or technocrat on a face-to-face basis provides the STSP with a unique opportunity to demonstrate that libraries can be useful to them.

2. Enlist Publicity Support from the STSP

The availability of reference and research services for the business community must be publicized. To attain its full service potential to industry, the 3R's Program also must send people into the business community to explain and demonstrate the utility of its services. Since the informational needs of industry range from hard copy (the 3R's Program's forte) to counseling by experts, educational programs, etc., it is unlikely that the 3R's Program could provide this full spectrum of service. Nor do we recommend that the 3R's Program provide staff to do so, since such service is the function of the STSP. Instead, the 3R's Program should encourage and support the STSP's efforts by providing it with the necessary documentation, storage, and retrieval services. In return for this support, the STSP can act as missionary for the 3R's Program and at the same time serve as spokesman for the documentation requirements of those industries it serves, providing valuable information to the 3R's Program in its continuing search for ways to improve its service to industry.

Publicity and promotional support from the STSP, however, can be expected only in those technical subject areas being covered by the STSP. All other subject areas will probably have to be covered by the 3R's Program.

3. Establish a Coordinating Council for the 3R's Program and the STSP

A coordinating council consisting of one state-level and one regional-level representative from the 3R's Program and the STSP should be established at the state level. The primary function of this four-man council would be to review the plans and progress of each program in order to identify areas where coordinated action might be appropriate.

The coordinating council should sponsor joint seminars in each region on services available to business and industry under each of these programs. Only thus can any meaningfull coordination develop at the operating level -- the level at which the businessman makes contact with each system. The seminars should also be used to exchange views on ways in which the library system can improve its support to the business community and how the library system can more effectively publicize its services. An important benefit of these meetings will be the establishment of informal relationships between librarians and STSP personnel.

Council meetings should be held monthly. To coordinate the activities of each program, the council should review service plans of STSP subject and regional centers and the 3R's systems. In matters pertaining to publicity, development of inventory tools, and improved communications, there should be a continuing responsibility at the regional levels. At least once every six months, representatives of all agencies representing both programs within a given area -- regional and subject center representatives of STSP and the 3R's system representatives -- should meet to discuss mutual problems and topics of mutual interest; for example:

(a) Publicity,

(b) Union lists of periodicals and catalogs of information,

(c) Maintenance of effective coordination between the programs so that the resources of both are available through any one of the agencies, and

(d) Joint seminars.

B. THE 3R'S PROGRAM -- INTERNAL IMPROVEMENTS

Library resources and, to a lesser degree, service requirements vary from region to region within the state, and there is little uniformity between the various 3R's Programs in the nine regions. Thus, it is difficult to identify the 3R's Program as a specific entity. In many ways, the 3R's Program is an organizational realignment of the 22 public library systems into nine regions (but with the 22 systems still functioning as before). The most important contribution of the 3R's Program, in terms of service, is that it brings colleges and universities, as well as special libraries, into the statewide library network. Some of the administrators of the 3R's Program described their work primarily in terms of the NYSILL system and FACTS, and seemed confused as to their role in the state library network. This confusion is not surprising in light of the newness of these programs and should be greatly reduced as the 3R's Program begins to implement activities which are still in the planning stage. The administrators will then be able to function as coordinators of ongoing programs, to act as communications clearinghouses in directing clients to the best sources of information, and to help build up resources and delivery systems, as well as to develop special programs for stimulating better use of the library network.

The area of greatest confusion, however, was whether or not the 3R's region should serve as an operational element in the statewide library system. In some cases, 3R's regions are planning such activities as bibliographic searches and union catalogs, while in other regions the 3R's administration is proceeding solely as a planning and funding activity. If there is to be a coherent structure to this program, the ambiguity as to whether the 3R's region is an administrative echelon in the total system or an operating element must be clarified.

In addition, many of the regions are not aggressive in developing programs to serve the business community. Such programs, perhaps more than any others, require strong state support. Without more direction from the state, the 3R's Program may become exclusively a student- and faculty-oriented program. While many state programs rely heavily on local planning to serve the needs of the business community, to achieve satisfactory results strong direction at the state level is absolutely essential.

To bring more direction to the program and thus to better serve the needs of business and industry, we recommend that the following steps be implemented by the Division of Library Development.

1. Establish a Library Reference Center for Businessmen

To improve the confidence of businessmen in public library service, reference librarians trained to meet their needs should be made available. The wide variety of subject matter required by industry and the dispersion of industry throughout the state make it impractical to make these services available at all public libraries throughout the state; however, it would be possible to establish a business and industry reference center at one of the existing library system headquarters within each of the 3R's regions. The Business and Industry Reference Center would have access to telecommunications, searching tools, messenger service, etc., already available at these locations. Establishing reference centers would then be a matter of building on existing strengths rather than creating entirely new operations.

Requests from businessmen which could not be filled at a local public library could be referred to the Center. The Center, in turn, would act as a switching station which would channel the request to libraries within the 3R's region or, if necessary, to sources outside the region. Provision also should be made for businessmen to call the Reference Center directly, thus bypassing the local public library. In this way, all businessmen in the state would have access to trained business and technical reference librarians by telephone. Consideration should be given to providing free telephone service to the Center by either subscribing to an "enterprise number" or a telephone long-line from each public library to the Center.

Personnel assigned to the Center should frequently visit the public libraries they are serving to familiarize the librarians with their service and to gather information on how the service might be improved.

2. Extend NYSILL to Out-of-State Resources

Industries with their own libraries seem to rely heavily on out-of-state information sources. The retrieval of information being generated by increased support of research and development by the Federal Government and private industry, both within and outside of the State of New York, will become even more difficult than it is now. Plans for linking the NYSILL system and the FACTS system (if it proves to be useful and economically feasible) into information sources outside the state should be implemented as soon as practicable.

Representatives of the state library system should explore with the Federal Government the possibility of federal support for this program. The Federal Government may be responsive to such a program since it would aid in the dissemination of information available from such groups as the Department of Defense and NASA.

3. Provide Nonbook Material

Reports issued in a variety of forms (tapes, microfilm, etc.) are becoming increasingly important to the research community. To simply retrieve these documents is not enough; reading machines and print-out devices must be provided. An investment in these devices, initially at the business reference center of each 3R's region, should be considered if the 3R's Program is to support fully the needs of industry.

4. Develop Improved Inventory Tools on a Regional and Statewide Basis

More important than the building up of resources is the ability to locate resources that are already a part of the network. Regional union lists of serials and union catalogs (even of the limited variety) will help in the identification of material sources. An accurate listing of subject strengths will increase the possibility of locating material that is available in the intermediary's own region. A request is more likely to be filled within the desired time if it can be filled from the 3R's region's own resources than if it has to be sent further along the library network.

The same tools are needed on a statewide basis. The program underway to place holdings of the New York State Library on computer is a fine beginning. Since the New York State Library is the cornerstone of the whole network, priority should be given to the organization of this library so that its service potential will be fully realized.

5. Restructure the Interloan System

When an improved inventory system has been implemented, an effort should be initiated to redirect the interloan system so that the resources of each of the 22 library systems (within the nine 3R's regions) can be fully exploited. Under the existing NYSILL and FACTS interloan structure, a request that cannot be filled by one or more of the systems within a given 3R's region is channeled to the New York State Library. The State Library must then fill the request with its own resources or send it to one of several alternative Subject Centers. With the exception of the New York Public Library, few, if any, of these requests are directed to one or more of the eight remaining 3R's regions. The reason is very simple. The New York State Library, the nerve center of NYSILL and FACTS, does not know what holdings exist in each of the regions. Until such time as each of the nine 3R's regions and the associated 22 public library systems develop union catalogs, the workload on the State Library and its subject centers will increase as will unfilled requests of the users.

Only those requests that cannot be filled at the regional level should be handled by the State Library or by Special Subject Centers. The State Library should act basically as a switching center for requests that it cannot fill using its own resources. To effectively perform this function, however, the State Library must have access to union catalogs for each of the nine 3R's regions.

6. Increase the Funding for the 3R's Program

Current funding levels of the 3R's Program must be substantially increased if the program is to serve adequately the needs of the research community. The creation of union catalogs, the buildup of certain subject holdings, and the addition of experienced reference librarians will require funds far in excess of those presently allocated by the state. Dollars alone, of course, will not improve the program. Success ultimately will depend on the clear definition of goals, planning, and managerial capabilities. Yet appropriations are needed so that the 3R's councils can hire qualified staff to formulate goals and clearly outline the scope of proposed programs. Initially, state funds should be sufficiently adequate to attract competent personnel. Subsequent funding should proceed as plans are developed and their efficacy assessed by the Division of Library Development. Once a program is approved, it must have ensured financial support for its implementation and not depend on annual appropriations, which tend to fluctuate from year to year.

7. Develop a Capability for Computerized Bibliographic Searches at the State and Regional Level

The biggest challenge facing the library system is the improvement of its capability to match requests with resources. Automation affords this opportunity; for example, magnetic tape permits searching of abstracts, indexes, and reports on a level and at speeds not possible with conventional methods. A high priority should be assigned to automated bibliographic searches.

8. Organize the 3R's as Shown in Figure 7

The proposed 3R's organization will function as follows:

- The researcher or businessman will visit one of the libraries (intermediaries) and request material.
- If the request is for specific material and the book is not on the premises, the request will be forwarded into the network.
- If the request requires a bibliographic search or other expertise, it will be forwarded to the regional backup center (Business Reference Library Center), which, in most 3R's systems, will be a public library.
- The backup center will request the resource holders in the region to provide the material desired; if the businessman requires assistance that STSP might partially provide, the STSP agency will be alerted.

- Requests which cannot be filled in the region will be forwarded to the state center and filled through NYSILL or FACTS, or from out-of-state sources.

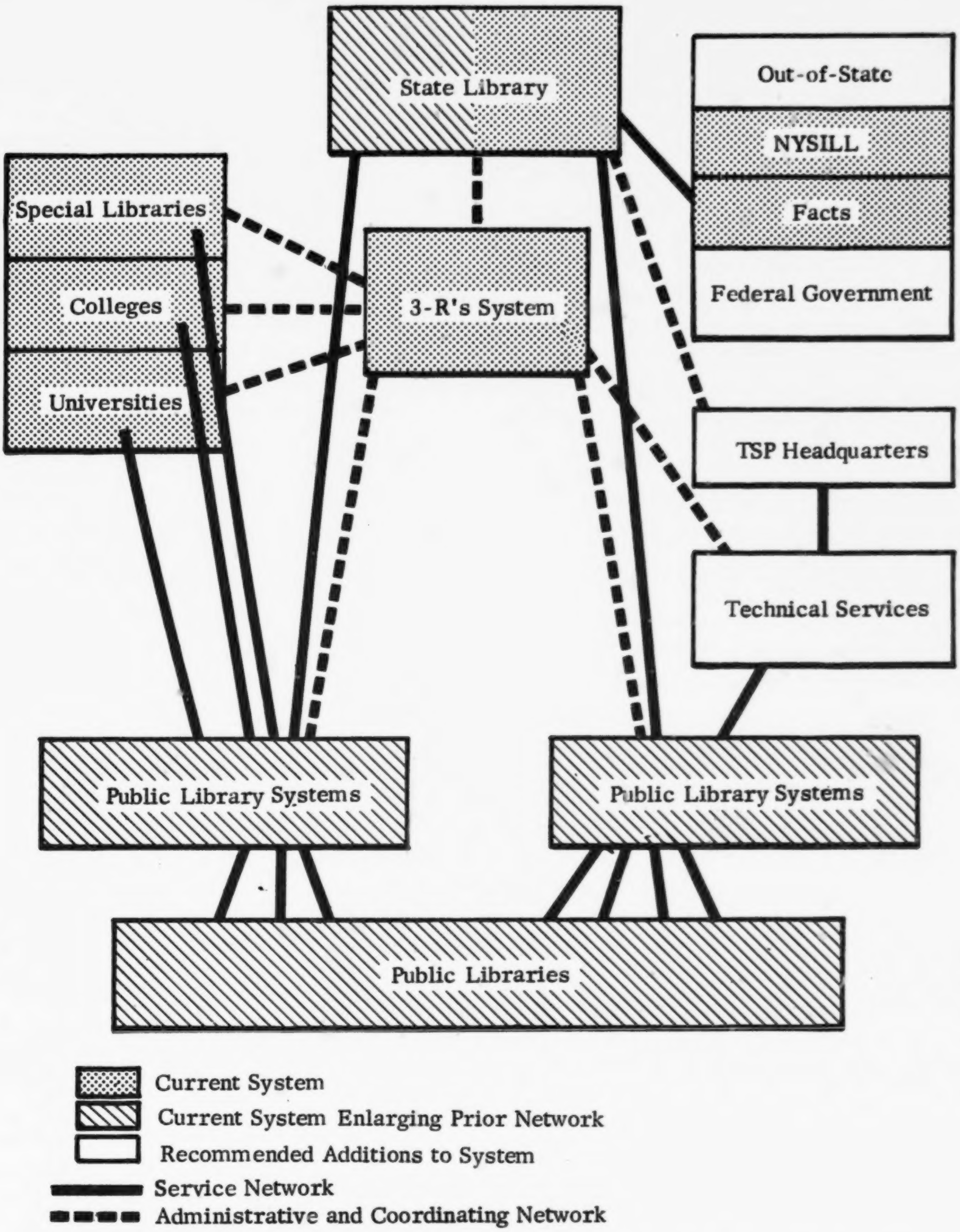
- Materials will be sent to a library of the individual's choice or to the regional center.

Businessmen and professional men should be able to utilize all libraries convenient to them. Thus, if a local library either lacks receptiveness or cannot handle his requests efficiently, the patron may use another library.

9. Promote the 3R's Program on a Regional Basis

A regional program should be developed and vigorously implemented to alert all the libraries in the region of what the 3R's Program is and what it can accomplish. The business community also should be made aware of the services provided by the 3R's Program.

The program must be regional because of the uniqueness of each region in terms of its subject holdings and the types of industrial and business firms each serves. This program should be instituted, where appropriate, in conjunction with STSP activities. Since the STSP is designed to serve only certain industries and within these industries only problems of a technical nature, the 3R's promotion program must appeal to a wider audience.


State Library
Out-of-State
NYSILL
Facts
Federal Government
Special Libraries
Colleges
Universities
3-R's System
TSP Headquarters
Technical Services
Public Library Systems
Public Library Systems
Public Libraries
Current System
Current System Enlarging Prior Network
Recommended Additions to System
Service Network
Administrative and Coordinating Network

Note: State Library and Public Library Systems are ongoing programs. The 3-R's Program brings colleges, universities, and special libraries into the network. We recommend that Technical Services, Out-of-State libraries, and the Federal Government be brought into the network.

FIGURE 7 3-R's SERVICE NETWORK

APPENDIX

NEW YORK STATE SPECIAL LIBRARY QUESTIONNAIRE

The attached sample questionnaire contains an enumeration of the survey results. Cross tabulations are not included in this report since they exceed more than 150 pages of machine print-out. The machine tabulations are on file with the Division of Library Development of the New York State Library.

The following notes will assist the reader in reviewing the results.

Question 2. – Since respondents could select more than one category, "votes" refers to the total number of times each category was selected.

Mean and Median – Depending on the values of skewness and kurtosis computed for the distribution of responses to each question, either the mean or the median was selected to characterize the "average" answer of respondents to each question. In some instances, the mode and median were the same and are identified as such in the tabulated results.

Ranking Questions – Questions 14, 15, and 21 require the respondent to rank the top three subject areas in relation to a particular question. The results were tabulated by counting the "votes" within each of the three ranks. Consequently, a subject area could appear in more than one rank; for example, "medical" was in first place and in third place in response to Question 15.

NEW YORK STATE SPECIAL LIBRARY QUESTIONNAIRE

DIRECTIONS

Your answers to this questionnaire will be used for statistical purposes only and will not be identified with you in any way. Please read each question carefully. All questions refer to the calendar year 1966. The questionnaire asks for certain detailed information that may not be readily available to you. In this case, please give your best estimates.

When you have filled in the survey, please return it in the enclosed stamped, addressed envelope to Arthur D. Little, Inc., 35-234 Acorn Park, Cambridge, Massachusetts, 02140. Please return this survey by July 15, so your responses can be included in the tabulation of results.

ABOUT YOUR ORGANIZATION

1. (Optional) Name of Organization which your library serves. ____________

2. Whom is your library primarily designed to serve? (Check more than one, if appropriate).

Votes			Votes
86	( ) Professional employees	( ) Managerial employees	55
43	( ) Technical employees	( ) Member organizations	10
8	( ) The public, Local	( ) The public, National	9

3. Approximately how many persons are employed by your company or organization in the facility which your library serves?

		%		%
	( ) 1-19	7.1	( ) 500-999	10.1
	( ) 20-49	6.1	( ) 1000-2499	13.7
	( ) 50-99	9.7	( ) 2500-9999	15.2
	( ) 100-249	17.3	( ) 10,000 or more	5.1
Mean/Median	(X) 250-499	15.7		

4. Approximately what percentage (to the nearest 10 percent) of the number of employees indicated above used your library during 1966?

		%		%
	( ) 10 percent	14	( ) 60 percent	7
	( ) 20 percent	12	( ) 70 percent	10
	( ) 30 percent	13	( ) 80 percent	8
	( ) 40 percent	9	( ) 90 percent	7
Mean/Median	(X) 50 percent	13	( ) 100 percent	7

5. Which Standard Industrial Classification code best describes the activities of your company or organization served by your library? (Review this list carefully and check only one.)

	S.I.C. Number	%	Description	
( )	Division A	1.0	Agriculture, Forestry & Fisheries	(1)
( )	Division B	1.5	Mining	(1)
( )	Division C	-	Contract Construction	
( )	19	-	Ordnance & Accessories	
( )	20	3.0	Food and Kindred Products	
( )	22	-	Textile Mill Products	
( )	23	-	Apparel & Other Finished Products Made from Fabrics and Similar Materials	
( )	24	-	Lumber & Wood Products (except Furniture)	
( )	25	-	Furniture & Fixtures	
( )	26	1.0	Paper and Allied Products	(1)
( )	27	6.0	Printing, Publishing, & Allied Industries	(1)
( )	28	8.0	Chemicals & Allied Products	(7)
( )	29	3.5	Products of Petroleum and Coal	
( )	30	-	Rubber Products	
( )	31	-	Leather and Leather Products	
( )	32	-	Stone, Clay, and Glass Products	
( )	33	1.5	Primary Metal Industries	
( )	34	-	Fabricated Metal Products (except Ordnance, Machinery, and Transportation Equipment)	
( )	35	-	Machinery (except Electrical)	
( )	36	3.5	Electrical Machinery, Equipment & Supplies	(5)
( )	37	.5	Transportation Equipment	
( )	38	5.5	Professional, Scientific, & Controlling Instruments. Photographic and Optical Goods; Watches and Clocks	(9)
( )	39	1.0	Miscellaneous Manufacturing Industries	(1)
( )	Division E	2.5	Transportation. Communications & Other Utilities	(1)
( )	Division F	.5	Wholesale and Retail Trade	
( )	60	3.0	Banking	
( )	62	4.5	Securities	(1)
( )	63	3.0	Insurance	
( )	65	-	Real Estate	
( )	67	1.0	Investment Companies	
( )	73	6.5	Miscellaneous Business Services	
( )	80	13.0	Medical & Other Health Services	(6)
( )	81	2.0	Legal Services	(1)
( )	82	3.0	Educational Services	
( )	84	3.5	Museums, Art Galleries & Botanical & Zoological Gardens	(1)
( )	86	-	Nonprofit Membership Organizations (if checked, please also check appropriate SIC above)	
( )	89	5.0	Miscellaneous Services (Includes Engineering, Architectural and Research Services)	(2)
( )	Division I	.5	Government	
( )	--	15.6	Other (please specify)________________	(6)

YOUR LIBRARY

6. In what county is your facility located? 76.4 % Region 3

7. How many full time equivalent persons are employed by your library? 3 (Median)

8. How many of the above are professional librarians? 1 (Median)

YOUR LIBRARY RESOURCES (1966)

9. Number of volumes, documents, and vertical file items in collection (other than serials) 10,000 (Median)

10. Number of serial titles received 225 (Median)

11. Number of serial titles retained at least 4 years 100 (Median)

12. Number of requests annually 4,000 (Median)

13. Rank in order of the strength of your library holdings the top three subject areas of specialization. (Refer to the list on page 4 and enter the number corresponding to each of the subject area categories):

Rank	Subject Area Number
1	Business
2	Chemistry
3	Economics

SUPPLEMENTING YOUR LIBRARY RESOURCES

14. Using only your own library resources, approximately what percentage of the time in 1966 were you able to fill the requests of users for the following?

Serial requests 80 percent
Book requests 80 percent
Bibliographic information 90 percent
Specific information requests 90 percent

15. In what subject areas were most of your interlibrary* borrowings made to fill requests you could not meet with your own resources? (Please rank in order of frequency by using the numbers from the list of subject areas on page 4):

Rank	Subject Area Number
1	Medical
2	Chemistry
3	Medical

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*Interlibrary loans, as used herein does not include interloans (made between you and other libraries within your organization).

SUBJECT AREA CATEGORIES (ADAPTED FROM DEWEY SYSTEM)

(01) Generalities
(02) Philosophy & Related
(03) Religion
(04) Statistical method & statistics
(05) Political science
(06) Economics
(07) Law
(08) Public administration
(09) Welfare & association
(10) Education
(11) Commerce
(12) Customs & folklore
(13) Language
(14) Mathematics
(15) Astronomy & allied sciences
(16) Physics
(17) Chemistry & allied sciences
(18) Earth sciences
(19) Paleontology
(20) Anthropolog. & biol. sciences
(21) Botanical sciences
(22) Zoological sciences
(23) Medical sciences
(24) Engineering & allied operations
(25) Agriculture & Agric. industries
(26) Domestic arts & sciences
(27) Business & related enterprises
(28) Chemical technology, etc.
(29) Manufactures processible
(30) Assembled & final products
(31) Buildings
(32) Civic & landscape art
(33) Architecture
(34) Sculpture & the plastic arts
(35) Drawing & decorative arts
(36) Painting & paintings
(37) Graphic arts
(38) Photography & photographs
(39) Music
(40) Recreation (Recreational arts)
(41) Literature & rhetoric
(42) General geog. & history, etc.

16. In each instance in 1966 of locating serials, books, bibliographic information, and specific information not contained in your library, on the average how many inquiries to other libraries (or alternate information sources) did you make before you were successful? 2 Median

17. Estimate the number of items you received under interlibrary transactions in 1966. 100 Median

18. Of the total number of items you received under interlibrary transactions during 1966, approximately what percentage were in each of the following categories:

Books	30	percent
Serials	22	percent
Patents, dissertations, research, reports, etc.	6	percent
Photocopies	27	percent
"Give away" publications	5	percent
Other (please specify) ____________	5	percent
Total	100	percent

19. If material requested is not in the library, and you must go to external sources, what in general is the necessary response time indicated by the user?

%		%		%	
16	( ) Less than a day	12	(X) 3 days	12	( ) 8-14 days
16	( ) 1 day	12	( ) 4-5 days	2	( ) 15-30 days
14	( ) 2 days	14	( ) 6-7 days	-	( ) over 30 days

20. In those instances in 1966 where you could not fill user requests using your own library resources, approximately what percentage of the time were you able to fill requests for:

Serials	97	percent
Books	90	percent
Bibliographic information	97	percent
Specific information	90	percent

SUPPLEMENTING THE RESOURCES OF OTHER LIBRARIES

21. In what subject areas are most of your interlibrary transactions made to fill requests from other libraries? (Please rank in order of frequency by using the numbers from the list of subject areas presented on page 4.)

Rank	Subject Area Number
1	Business
2	Chemistry
3	Economics

22. Of the total number of inquiries received by your library during 1966, what percentage were you able to fill? 80% Median

( ) By policy, we do not make loans (32 respondents)

23. Estimate how many items your library loaned to other libraries in 1966 30 Median

24. Of the total number of items sent by your library to other libraries during 1966, what percentage were in each of the following categories?

Books	27 percent
Serials	26 percent
Patents, dissertations, research reports, etc.	6 percent
Photocopies	21 percent
"Give away" publications	4 percent
Other (please specify) ________	5 percent
Total	100 percent

25. Did you request information or materials from the New York State Library at Albany during 1966?

( ) No 78% ( ) Yes 22%

If yes, complete (a), (b), and (c).

a. Number of requests in 1966 10 Median

b. Number of actual receipts of requested information and new materials in 1966 5 Median

c. Average time between initiation of request and receipt of requested material: Median 8-14 days

%		%		%	
0	( ) less than a day	5	( ) 3 days	29	(X) 8-14 days
5	( ) 1 day	12	( ) 4-5 days	24	( ) 15-30 days
2	( ) 2 days	22	( ) 6-7 days	0	( ) over 30 days

26. Did you request information or materials from public libraries in New York State during 1966?

( ) No 29% ( ) Yes 71%

If yes, complete (a), (b), and (c).

a. Number of requests in 1966 25 Median

b. Number of actual receipts of requested information and materials in 1966 17 Median

c. Average time between initiation of request and receipt of requested material: Median 2 days

%
23 ( ) Less than a day
20 ( ) 1 day
12 (X) 2 days

%
6 ( ) 3 days
12 ( ) 4-5 days
10 ( ) 6-7 days

%
12 ( ) 8-14 days
4 ( ) 15-30 days
0 ( ) over 30 days

27. Did you request information or materials from university or college libraries in New York State during 1966?

( ) Yes 71% ( ) No 29%

If yes, answer (a), (b), and (c).

a. Number of requests in 1966 20 Median

b. Number of actual receipts of requested information and materials in 1966 15 (Median)

c. Average time between initiation of request and receipt of requested material: Median 4-5 days

%
11 ( ) Less than a day
18 ( ) 1 day
8 ( ) 2 days

%
7 ( ) 3 days
15 (X) 4-5 days
12 ( ) 6-7 days

%
20 ( ) 8-14 days
8 ( ) 15-30 days
0 ( ) over 30 days

28. Did you request information or materials from non-profit research centers in New York State during 1966?

( ) Yes 48% ( ) No 52%

If yes, please answer (a), (b), and (c).

a. Number of requests in 1966 23 (Median)

b. Number of actual receipts of requested materials in 1966 20 (Median)

c. Average time between initiation of request and receipt of requested material: Median 3 days

%
14 ( ) Less than a day
16 ( ) 1 day
8 ( ) 2 days

%
17 (X) 3 days
14 ( ) 4-5 days
8 ( ) 6-7 days

%
19 ( ) 8-14 days
3 ( ) 15-30 days
0 ( ) over 30 days

29. Did you request information or material from other special libraries (including professional societies, trade associations, and profit-making corporation libraries) in New York State during 1966?

( ) Yes 91% ( ) No 9%

If yes, please answer (a), (b), and (c).

a. Number of requests in 1966 40 (Median)

b. Number of actual receipts of requested information and materials in 1966 23 (Median)

c. Average time between initiation of request and receipt of requested material: Median 2 days

%
20 ( ) Less than a day
18 ( ) 1 day
11 (X) 2 days

%
10 ( ) 3 days
12 ( ) 4-5 days
12 ( ) 6-7 days

%
14 ( ) 8-14 days
2 ( ) 15-30 days
0 ( ) Over 30 days

30. Did you request information or material from out-of-state libraries (excluding Federal Government) during 1966?

( ) Yes 47% ( ) No 53%

If yes, answer (a), (b), and (c).

a. Number of requests in 1966 20 (Median)

b. Number of actual receipts of requested information and material in 1966 16 (Median)

c. Average time between initiation of request and receipt of request material: Median 8-14 days

%		%		%	
1	( ) Less than a day	2	( ) 3 days	37	(X) 8-14 days
6	( ) 1 day	6	( ) 4-5 days	28	( ) 15-30 days
5	( ) 2 days	14	( ) 6-7 days	1	( ) over 30 days

31. Did you request information or material from Federal Government sources during 1966?

( ) Yes 83% ( ) No 17%

If yes, please answer (a), (b), and (c).

a. Number of requests in 1966 40 (Median)

b. Number of actual receipts of requested information and material in 1966 34 (Median)

c. Average time between initiation of request and receipt of requested material. Median 8-14 days

%		%		%	
3	( ) Less than a day	3	( ) 3 days	27	(X) 8-14 days
3	( ) 1 day	3	( ) 4-5 days	33	( ) 15-30 days
5	( ) 2 days	12	( ) 6-7 days	12	( ) over 30 days

32. Did you request information from experts, faculty members, or other individuals during 1966?

( ) Yes 43% ( ) No 57%

If yes, please answer (a), (b), and (c).

a. Number of requests in 1966 12 (Median)

b. Number of actual receipts of requested information and materials in 1966 10 (Median)

c. Average time between initiation of request and receipt of requested material: Median 3 days

%		%		%	
20	( ) Less than a day	8	( ) 3 days	11	( ) 8-14 days
21	( ) 1 day	13	( ) 4-5 days	6	( ) 15-30 days
8	( ) 2 days	10	( ) 6-7 days	3	( ) over 30 days

33. You have just indicated your approaches to interlibrary transactions. Now we would like to know why you used certain libraries more than others. Please select as many of the reasons below as are appropriate:

Votes		
84	( )	Broad subject area coverage available
165	( )	Collections especially appropriate for your needs
109	( )	Short interval between request and delivery of material
78	( )	Good communications facilities (e.g., facsimile, TWX, messenger service, etc.)
114	( )	Good working relationships
42	( )	Contractual or financial relationship
127	( )	Location and accessibility of library
26	( )	Formal interlibrary loan agreement
12	( )	Other (please specify) ________________

OPTIONAL COMMENTS

If you have any suggestions or opinions which were not covered in this survey, and which you feel would be helpful to us in our study, please indicate them below:

Thank you for your cooperation. Please return the complete survey in the enclosed stamped, addressed envelope to Arthur D. Little, Inc., 35-234 Acorn Park, Cambridge, Massachusetts, 02140.